

Chapter 8

Mass Appraisal of Land

In Oregon, the real market value of the land must be listed separately from all buildings, structures, improvements, and timber for ad valorem purposes [ORS 308.215(1)(e)]. This requires a separate land valuation. The exception to this rule is condominiums which are expressed as a single combined value. Land value results from various factors as listed in ORS 308.235 and OAR 150-307.010.

The valuation of land can be separated into three basic functions:

- Identification;
- Analysis; and
- Valuation.

This chapter deals primarily with the analysis and valuation of land. Identification is discussed in Chapter 4.

Highest and best use, anticipation, supply and demand, balance, substitution, assemblage, and plottage are principles of appraisal that affect land value. These are defined in Chapter 5.

OAR 150-308.215(1) states that the assessment roll shall include the property classification code number for each individual parcel of locally assessed real property in the county. Property classification provides a standard method of organizing sales ratio and adjustment programs as required by ORS, Chapter 309, to maintain assessment levels at 100 percent of RMV. Property classification is not intended to accommodate market data that can be handled better by other categories such as building class or neighborhood.

Property classification is based on the highest and best use of the land. Unique properties requiring a separate adjustment can be handled within the miscellaneous classes.

Land Valuation Techniques

Allocation Procedure

The allocation procedure may be considered when no current vacant land sales are available in the reappraisal area. However, use this method with caution as it is less reliable than direct sales comparison.

Under the allocation procedure, an estimate is made of the value that land contributes to the total property value. This land value can be estimated from the appraiser's knowledge of the market based upon:

- Previous years' land values,
- Analysis of new construction sites from similar neighborhoods, and
- Land-to-building ratios from similar neighborhoods.

Example

Your estimate of land values compared to total property values is 20 percent in a given residential neighborhood. The allocation is 4:1 or four parts improvement to one part land. For example, on an \$80,000 improved property, the contributory land value would represent 20 percent, or one-fifth, of the total value. Thus, the estimated land value would be $\$80,000 \times .20 = \$16,000$.

Extraction Procedure

The extraction procedure uses the cost approach to subtract the improvement value from the total property value. Using this method, you would subtract the depreciated replacement cost of the improvements from the total property value to arrive at an indicated land value.

Example

Sales price of property	\$ 80,000
Replacement cost new estimate	100,000
Less accrued depreciation	<u>– 36,000</u>
Estimated value of improvements	64,000
Indicated land value (\$80,000 – \$64,000)	\$ 16,000

This procedure should be applied to a large enough sample of properties in the neighborhood to give a range of values. The extraction method is less reliable than the direct comparison approach and should be used with caution.

Land Residual Capitalization Procedure

The main premise of the land residual capitalization procedure is that land will be valued at its highest and best use. The highest and best use may be the actual existing improvement or a hypothetical projected use.

With this procedure:

- The net income earned by the total property (land and improvements) is estimated from the market;
- The cost of the improvements is estimated;
- The income attributable to the improvement is calculated and deducted from the total net income;
- The remaining net income is attributed to the land; and
- The remaining net income is capitalized by the appropriate market rate for a value indication.

Example

Total net income for the property	\$ 40,000
Improvement cost or value	
(\$200,000) × 12% rate	<u>-\$24,000</u>
Income attributable to land	\$ 16,000
Value indication for land ($\$16,000 \div .10$)	\$160,000

Ground Rent Capitalization Procedure

This procedure is particularly effective in a downtown core area where no vacant land sales can be found. If income from such properties can be established in the market, the present worth of future benefits of the property can be estimated. For example, if the net income from an area parking lot can be estimated, it can be capitalized into an estimate of value.

Example

Net income \$10,000 ÷ .08 = \$125,000 estimated land value.

The reliability of this procedure depends on the highest and best use estimate, market rent estimate, and the development of a correct capitalization rate for the subject property.

Sales Comparison Approach

The sales comparison approach is the focus of this chapter and begins with the preappraisal set-up discussion that follows.

Preappraisal Set-up

For simplicity, this section will follow the step-by-step procedure for setting up the land portion of the residential mass appraisal program. The techniques used for preappraisal set-up and appraisal of commercial land are the same as those used for other urban land. There are seven steps in the preappraisal set-up for the mass appraisal of land:

1. Establish a base appraisal date;
2. Define neighborhood boundaries;
3. Gather and verify land sales data;
4. Establish base lot value;
5. Establish on-site development values;
6. Develop adjustments; and
7. Develop neighborhood land schedule.

Prior to reappraisal, post sales and any other pertinent information on the field maps.

Establish a Base Appraisal Date

The base appraisal date provides a predetermined point in time at which all time adjustments can be aimed. All the sales used in the preappraisal set-up should be adjusted to the base appraisal date to reflect either inflationary or recessionary trends in the market. Time adjustments can be made by using either resale properties or a comparable sales analysis of similar properties.

The time adjustment studies should be conducted as close to the base appraisal date as possible. These adjustments are expressed as a percent-per-month increase or decrease. If resales are not available, the trends can be determined by the assessor's sales ratio study.

Sales occurring after the base appraisal date must be considered in the final ratio analysis conducted at the end of the appraisal program. Any changes in value levels as reflected by those sales are recognized by adjusting the completed appraisals to the January 1 assessment date.

Additionally, during the yearly maintenance program when new construction is picked up, always refer back to the base appraisal date and use the same base standards. Compensate for any changes in market value levels occurring after the original base appraisal date by applying subsequent yearly adjustments.

Neighborhood Analysis

The appraisal staff needs to be familiar with the area to be reappraised. In becoming familiar with the reappraisal area, the distinctive neighborhoods within it must be defined. A neighborhood is a group of properties that share important characteristics and are often identified by a physical, geographic boundary (such as a street or river), or by a group of properties that react similarly to market influences.

A neighborhood can be further defined as a grouping of similar land uses that are influenced similarly by the four forces that affect property value. They are:

- Physical;
- Economic;
- Governmental; and
- Social.

The major physical factor affecting value is location. Others include topography, size and shape of a typical lot, appearance of a neighborhood, and availability of utilities.

Economic factors include the pattern of land use, employment of residents, average household income, and vacancy rates. Properties within a neighborhood generally suffer the same economic influences such as declining growth or stabilization.

Governmental factors include local land-use zoning, municipal services, and their costs.

Social factors include characteristics of residents (age, size of families, educational levels, income levels, etc.), population densities, and crime rate.

Neighborhoods should be labeled on reappraisal area maps, field records, and in the computer files using identifiers. The neighborhood identifier provides a basis for selective value adjustments indicated by the assessor's ratio study and assists in analysis for appraisal.

The identifier is used for:

- Comparison between similar neighborhoods; and
- A means of combining sales data by consolidating neighborhoods, when necessary.

A neighborhood should contain a sufficient number of accounts so adequate sales samples may be gathered.

Studies are conducted and compiled by neighborhood to establish the basis for:

- Land values;
- Improvement values; and
- Market adjustments.

The supervising appraiser should oversee the development of neighborhood identifiers and appropriate neighborhood studies.

Collection, Confirmation, and Organization of Sales Data

Once the reappraisal area has been identified, the collection of sales data begins. Obtain a listing of property sales from the data analyst. Sales that have occurred during the previous 12 months usually are sufficient to provide the necessary data for appraisal analysis. In some areas, you might need to use sales from the previous two or three years, adjusted for time. The data analyst should be able to provide a list of properties that have sold and resold. Analyze these properties to obtain a time adjustment. Apply it to property sales to provide a uniform basis from which to adjust for different property characteristics.

All vacant land sales should be confirmed to determine whether the sale is an arm's-length transaction, and if all value considerations have been reported in the selling price. Verification should be made with one of the principals of the sale (the buyer or the seller) or the real estate agent. It is essential to know the condition of the property at the time of the sale. Collect rental information (if any) to develop gross monthly rent multipliers. Record sales on appraisal maps and analysis spreadsheets.

A field inspection of sold properties is mandatory to check amenities or potential adjustments to the land value. These include view, location, size, shape, access,

topography, river, creek, and timber. Note all these items on the confirmation sheet for later analysis. These sales will be compared with the base unit to develop adjustment(s) through matched pair analysis.

Any farm crops, Christmas trees, and timber included in the sales price need to be valued and deducted from the sale for a bare land value indication.

To verify sales information:

- Confirm the sales price;
- Determine if the sale was an arm's-length transaction;
- Identify the date of sale or the date the price was agreed upon;
- Find out terms of the sale;
- Determine if the buyers and sellers are knowledgeable about the market;
- Ask the buyers if they knew of any problems with the property;
- Inquire if any additions or improvements were made to the property after the sale; and
- Inspect the property.

After all the sales data has been collected, organize the data into a usable format. Use a standard spreadsheet format to analyze the following for any effects on value: location, access, topography, size, view, and other characteristics. The Cycle 5 Land Sales spreadsheet shown on the following page is one way to organize data.

Cycle 5 Land Sales

SALE #	MAP & TAX LOT	SALE DATE	SALE PRICE	TIME TREND	TIME		VIEW	STREET COVER	LOCATION
					TRENDED SALE PRICE	LOT SIZE			
1	5S 15E 24AA 2200	8-06-01	\$31,250	1.11	\$34,690	STANDARD	YES	PAVED	AVERAGE
2	5S 15E 24AA 5500	4-09-02	\$29,500	1.03	\$30,390	STANDARD	NO	PAVED	AVERAGE
3	5S 15E 24AA 5700	9-01-01	\$25,500	1.10	\$28,050	STANDARD	NO	PAVED	AVERAGE
4	5S 15E 24AA 7800	3-05-02	\$33,900	1.04	\$35,260	STANDARD	YES	PAVED	AVERAGE
5	5S 15E 24AA 15030	12-09-01	\$32,600	1.07	\$34,880	STANDARD	YES	PAVED	AVERAGE
6	5S 15E 24AB 2600	4-06-02	\$27,250	1.03	\$28,070	STANDARD	NO	GRAVEL	AVERAGE
7	5S 15E 24AB 6500	11-10-01	\$32,800	1.08	\$35,420	STANDARD	YES	PAVED	AVERAGE
8	5S 15E 24AB 6700	6-03-02	\$30,000	1.01	\$30,300	STANDARD	NO	PAVED	AVERAGE
9	5S 15E 24AB 10200	3-08-02	\$31,750	1.04	\$33,020	STANDARD	YES	GRAVEL	AVERAGE
10	5S 15E 24AD 1100	11-06-01	\$27,750	1.08	\$29,970	STANDARD	NO	PAVED	AVERAGE
11	5S 15E 24AD 2200	12-10-01	\$26,000	1.07	\$27,820	STANDARD	NO	GRAVEL	AVERAGE
12	5S 15E 24AD 6200	12-11-01	\$30,700	1.07	\$32,850	STANDARD	NO	PAVED	SUPERIOR
13	5S 15E 24AD 7700	3-01-02	\$34,000	1.04	\$35,360	STANDARD	YES	GRAVEL	SUPERIOR
14	5S 15E 24BA 100	5-05-02	\$34,250	1.02	\$34,940	STANDARD	YES	PAVED	AVERAGE
15	5S 15E 24BA 1200	8-07-01	\$29,950	1.11	\$33,240	STANDARD	YES	GRAVEL	AVERAGE
16	5S 15E 24BA 4300	5-10-02	\$29,000	1.02	\$29,580	STANDARD	NO	PAVED	AVERAGE
17	5S 16E 19BB 900	4-01-02	\$27,000	1.03	\$27,810	STANDARD	NO	GRAVEL	AVERAGE
18	5S 16E 19BC 1800	1-03-02	\$28,750	1.06	\$30,480	STANDARD	NO	GRAVEL	SUPERIOR
19	5S 16E 19BC 2900	11-13-01	\$30,000	1.08	\$32,400	STANDARD	NO	PAVED	SUPERIOR
20	5S 16E 19BC 3200	3-10-02	\$36,250	1.04	\$37,700	STANDARD	YES	PAVED	SUPERIOR

Units of Comparison

Before any valuation technique is applied, consider the units of comparison that each employs. Units of comparison are units of value measurement that are recognized by the market. The following units of comparison are typically found in the market:

- **Front foot**—The market recognizes the front footage of a property as contributing to value. Front footage is often useful in valuing downtown commercial, lakefront, or deep water port industrial property.
- **Square foot**—Square footage is used for properties that sell for an average price per square foot. This method is used to value residential, commercial, and small industrial sites.
- **Acreage**—The market often measures the value of rural and farm properties, shopping centers, and large industrial sites on a per acre basis.
- **Site**—When the market does not recognize a significant difference in lot value when there is a difference in size, the unit of comparison becomes a per-site basis. Most residential lots are bought and sold in this manner.
- **Per unit or space**—Multi-family sites are often sold based on a potential per apartment unit basis. Verify the number of units allowed by zoning. Value the land by the highest number of units feasible. The number of existing units may not represent highest and best use. This same caution applies to storage units, mobile home spaces, and moorage slips.

Establish Base Lot

Select a standard or typical parcel from the neighborhood to serve as the base lot. The base lot does not have to be a sale property, but should possess characteristics common to the majority of properties within the neighborhood. The preferred method of valuing the selected base lot is the sales comparison approach. This method uses sales of comparable properties that are analyzed, compared, and adjusted to the subject to provide an estimate of value. (This method is discussed in Chapter 6.)

For discussion purposes, the following base lot was chosen:

Map and tax lot 5S 15E 24AB 14900
 Sale date Not a sale property
 Size 6,500 square feet
 View None
 Street Paved with sidewalks
 Location Average

From the Cycle 5 Land Sales spreadsheet you observe that sales numbers 2, 3, 8, 10, and 16 are almost identical to the base lot. Because these five sales are similar to the base lot, no adjustments are necessary.

The data analyst has established from repeat sales that the market in the subject's neighborhood is increasing at a rate of 1 percent per month. Now a per-site sales comparison grid can be developed to determine the base lot value.

Note: To help illustrate time trending mechanics, this step is included in the base lot grid (see below).

Base Lot Sales Grid

APPRAISER: _____

DATE: _____

SALE #	DESCRIPTION/LOCATION	SALE DATE	SALE PRICE	TREND	TIME TRENDED SALE PRICE
2	5S 15E 24AA 5500	4-09-02	\$29,500	1.03	\$30,390
3	5S 15E 24AA 5700	9-01-01	\$25,500	1.10	\$28,050
8	5S 15E 24AB 6700	6-03-02	\$30,000	1.01	\$30,300
10	5S 15E 24AD 1100	11-06-01	\$27,750	1.08	\$29,970
16	5S 15E 24BA 4300	5-10-02	\$29,000	1.02	\$29,580

Mean: \$29,658 Median: \$29,970

Conclusion: Place more weight on the three most recent sales (2,8,16).

Conclude base lot value of \$30,000. The mean and median support this conclusion.

On-Site Development (OSD)

The value of the OSD may be higher or lower than the total cost of its components and is determined by the contribution of the OSD to the total market value of the real property.

Cost and market data are gathered for all the components of OSD. Values for wells and septic systems can generally be developed by analyzing recent market information. Some counties have a separate line item for landscaping values and others merge it into the overall OSD value. Different ratings of fair, average, good, and excellent for OSD or landscaping should be benchmarked with a colored photograph and narrative description.

Two methods for estimating the value of OSD are the cost and sales comparison approaches.

Cost Approach to OSD Value

The cost approach uses actual costs for estimating OSD suitable to support an improvement. These costs are added to the value of the land to provide an estimate of value for the homesite.

This approach requires extensive cost data gathering. Contractors and property owners are contacted to provide actual costs of developing homesites. Major items of cost are:

Site preparation	Landscaping
Water supply	Permits and inspection
Sanitary waste disposal	Insurance
Utility services	Management and profit
Gravel driveways	

Costs involved in estimating OSD can be obtained from utility companies and the contractors working in the area who perform the various types of work involved. Keep a list of these contractors in a file so they can be contacted yearly to update the cost data.

All costs of developing a homesite must be included in the valuation study. Inaccurate estimates of homesite development value will result in an incorrect land value. These incorrect values will be carried forward and distort improvement value residuals for the benchmarks and create inaccurate conclusions on building depreciation.

Example: Summary of Site Development Cost

Well:

Well depth	100 feet		
Casing depth	50 feet		
Lining depth	50 feet		
Drilling cost per foot	\$10.50		
Casing cost per foot	\$ 8.00	Typical market price	\$1,725
Lining cost per foot	\$ 5.50		

Support system: Submersible pump, pressure tank, pipe valves, and electricity \$1,800

Septic systems:

Standard	\$3,000–\$4,500		
Sand filter	\$9,500–\$12,500	Typical market price	\$3,500
All other	\$2,500–\$3,500		

Electricity:

Standard 500 feet	Free
More than 500 feet	\$5.00 l/f

Telephone:

Standard 500 feet	Free
More than 500 feet	\$1.00 l/f

Excavation:

Dwelling			
Foundation, backfill, and finish grade		Typical market price	\$1,750
Drive or roadway (standard 500 feet)			
Grading	\$700–\$950		
Base rock	\$800–\$1,050	Typical market price	\$2,400
Finish rock	\$600–\$850		

Indicated Total (rounded) \$11,200

Landscaping: Typically, there is a schedule of landscaping costs for the appraisal staff to use that includes such items as lawn, plantings, bark mulch, and irrigation systems.

Sales Comparison Approach to OSD Value

The sales comparison approach uses sales of improved properties to derive indications of OSD values. This analysis involves deducting the depreciated replacement cost of improvements from the sale price of the property to obtain a land residual. From this residual the base land value is subtracted. The result is the indicated OSD value extracted from the market.

Sale price	\$175,000
Depreciated replacement cost of improvements	<u>– \$ 98,000</u>
Residual to land	\$ 77,000
Indicated site value from benchmarks	<u>– \$ 55,000</u>
Residual on-site development value	\$ 22,000

The sales comparison approach is the preferred method of developing OSD increments. When there is considerable new construction, the cost method of developing OSD value increments is also reliable. Using the available sales, typical OSD value increments can be developed which represent a range of quantity and quality, i.e., fair, average, good, and excellent.

Example of OSD Rating Definitions and Value Increments

Fair (\$10,000): Fair OSD consists of excavation, backfill, finish grade, septic and water system, very limited road development or none, no landscaping.

Average (\$14,000): Average OSD consists of excavation, backfill, finish grade, septic and water system, average road development, average landscaping.

Good (\$18,000): Good OSD consists of excavation, backfill, finish grade, septic and water system, good road development, good landscaping (professionally designed with ornamental plants).

Excellent (\$30,000): Excellent OSD consists of excavation, backfill, finish grade, septic and water system, good road development, extensive landscaping (professionally designed with ornamental plants, water features, and extensive use of stone and rock).

Base Lot Description

Once the base land unit value is determined, summarize the information into a usable format. Following is an example of a base lot description.

Example: Base Lot Description

Neighborhood:	Clapton Hts.
Base lot value:	\$30,000
Lot size range:	3,800—6000 square feet
Average size lot:	5,000 square feet
Typical improvement description:	Single-story cottage or two-story craftsman
Average improvement age:	50 to 60 years
Average improvement property	
Value range:	\$60,000 to \$70,000
Topography:	Level
Shape:	Rectangular
View:	None
Zoning:	Single-family residential

Supporting market data:

Location	Sale Date	Sale Price	Area
Gordon Pl.	04/02	\$30,000	5,000 sq. ft.
Windsor Hts.	07/01	31,000	5,000 sq. ft.
Lexington Hts.	08/01	30,000	5,000 sq. ft.
Terrace Pk.	01/02	30,500	5,000 sq. ft.

Developing Adjustments

Since no two parcels of land are identical, it is likely that adjustments will have to be made when valuing other properties. Typical adjustments to land are size, view, location, shape, topography, and access. Always develop the most supportable adjustment first, the next most supportable second, etc.

Develop the adjustments through careful market analysis. One common method is matched pairs. Matched pair analysis requires that sales are similar in all but one characteristic. For example, two very similar lots in the same neighborhood sell, one

with a view and one without a view. The dollar difference between these two sales is considered as one market indication for view. Since one sale does not make a market, it requires a succession of these matched pairs to validate a view adjustment.

An extension of the matched pair concept is to compare a sales grid to the base lot. For example, 10 sales from the Cycle 5 Land Sales spreadsheet differ from the base lot in only one aspect. Two sales differ due to location (12 and 19), three sales differ due to street type (6, 11, and 17), and five sales differ due to view (1, 4, 5, 7, and 14). In this case, due to the number of sales, view is the most supportable adjustment and should be determined first. Remember, always determine the most supportable adjustment first. The techniques outlined here apply to urban and rural land.

From the Cycle 5 Land Sales spreadsheet, the following view adjustment grid can be developed.

View Adjustment Grid

APPRAISER: _____ DATE: _____

SALE #	DESCRIPTION/LOCATION	SALE DATE	TIME TRENDED SALE PRICE	LESS BASE LOT VALUE	INDICATED LUMP SUM ADJUSTMENT
BASE LOT	5S 15E 24AB 14900			\$30,000	
1	5S 15E 24AA 2200	8-06-01	\$34,690	\$30,000	\$ 4,690
4	5S 15E 24AA 7800	9-05-02	\$35,260	\$30,000	\$ 5,260
5	5S 15E 24AA 15030	12-09-01	\$34,880	\$30,000	\$ 4,880
7	5S 15E 24AB 6500	11-10-01	\$35,420	\$30,000	\$ 5,420
14	5S 15E 24BA 100	5-05-02	\$34,940	\$30,000	\$ 4,940

Mean: \$5,038 Median: \$4,940

CONCLUSION: Considering all five sales, the mean and the median indicators, a view adjustment of \$5,000 is concluded.

After a value for view has been developed, move on to the next adjustment. Three of the remaining 10 sales differ from the base lot by street cover. Two sales differ by street cover and view. Since a view adjustment has been established, the five sales (6, 9, 11, 15, and 17) can be used to determine if an adjustment for gravel street cover is warranted.

The following is a sales grid to determine the affect that gravel streets have on property values.

Gravel Street Adjustment Grid

APPRAISER: _____ DATE: _____

SALE #	DESCRIPTION/LOCATION	SALE DATE	TIME TRENDED SALE PRICE	VIEW ADJUST	ADJUSTED SALE PRICE	LESS BASE LOT VALUE	INDICATED ADJUSTMENT
BASE LOT	5S 15E 24AB 14900					\$30,000	
6	5S 15E 24AB 2600	4-06-02	\$28,070		\$28,070	\$30,000	\$ 1,930
9	5S 15E 24AB 10200	3-08-02	\$33,020	-\$5,000	\$28,020	\$30,000	\$ 1,980
11	5S 15E 24AD 2200	12-10-01	\$27,820		\$27,820	\$30,000	\$ 2,180
15	5S 15E 24BA 1200	8-07-01	\$39,240	-\$5,000	\$34,240	\$30,000	\$ 1,760
17	5S 16E 19BB 900	4-01-02	\$27,810		\$27,810	\$30,000	\$ 2,190

Mean: \$2,008 Median: \$1,380

CONCLUSION: Placed more weight on the three most recent sales (# 6, 9, 17).
Conclude gravel street adjustment to be a negative \$2,000.
The mean and median support this conclusion.

Adjustments have been developed for view and gravel street. Sales 12, 13, 18, 19, and 20 differ only in location. From these sales we can determine if an adjustment for superior location is warranted.

Superior Location Adjustment Grid

(Maps 5S 15E 24AD and 5S 16E 19BB)

APPRAISER: _____ DATE: _____

SALE #	DESCRIPTION/LOCATION	SALE DATE	TIME TRENDED SALE PRICE	VIEW ADJUST	GRAVEL STREET ADJUST	ADJUSTED SALE PRICE	LESS BASE LOT VALUE	INDICATED ADJUSTMENT
BASE LOT	5S 15E 24AB 14900						\$30,000	
12	5S 15E 24AD 6200	12-11-01	\$32,850			\$32,850	\$30,000	\$ 2,850
13	5S 15E 24AD 7700	3-01-02	\$35,360	\$5,000	-\$2,000	\$32,360	\$30,000	\$ 2,360
18	5S 15E 19BC 1800	1-03-02	\$20,480		-\$2,000	\$18,480	\$30,000	\$ 2,480
19	5S 16E 19BC 2900	11-13-01	\$32,400			\$32,400	\$30,000	\$ 2,400
20	5S 16E 19BC 3200	8-13-02	\$37,700	-\$5,000		\$32,700	\$30,000	\$ 2,700

Mean: \$2,558 Median: \$2,180

CONCLUSION: Placed equal weight on all sales.
Considered the mean and median.
Conclude an adjustment of \$2,500 for superior location.

As you can see from the previous grids, successive adjustments can depend on established adjustments. Remember to document all adjustments and costs.

The previous examples used lump-sum dollar adjustments. You can develop or apply adjustments three ways:

1. Add and subtract dollar amounts;
2. Add and subtract percentages; and
3. Multiply percentages.

Each method will have similar results assuming they are applied in the same manner in which they were developed.

Neighborhood Land Schedule

After all adjustments and costs have been developed, compile a neighborhood land schedule.

Example: Neighborhood 660 Neighborhood Base Land Value: \$30,000

Size

Size	Adjustment
3,800–4,299 SF	–\$1,400
4,300–4,799 SF	–700
4,800–5,199 SF	Base
5,200–5,599 SF	+400
5,600–6,099 SF	+800
6,100–6,699 SF	+1,300
6,700–7,799 SF	+2,100
7,800–8,999 SF	+3,000
9,000–9,999 SF	+3,400

Adjustments

Type	Adjustment
Gravel street	–\$2,000
OSD fair	+\$2,000
OSD average	+4,000
OSD good	+6,000
Fair view	+3,000
Average view	+5,000

Good view	+7,000
Superior location	+2,500

Valuation of Rural Tract Land

The techniques for appraising suburban and rural tract lands are similar to those used for appraising urban land. The appraisal of tract land can include suburban properties located adjacent or near city limits, residential tracts, farm properties, forest properties, and recreational properties. Generally, these lands are acreage parcels of varying size, located outside the incorporated municipal city limits.

After field inspection and confirmation of the rural land sales, a spreadsheet analysis is necessary to develop a base land value. At this time, neighborhood or location adjustments should be identified. Rural land must be valued by the average price per acre based on the size of the parcel (OAR 150–308.205(A)(i)). Adjustments to value shall be made to those acres having more or less utility. Accordingly, vacant rural land sales need to be analyzed on a per-acre basis.

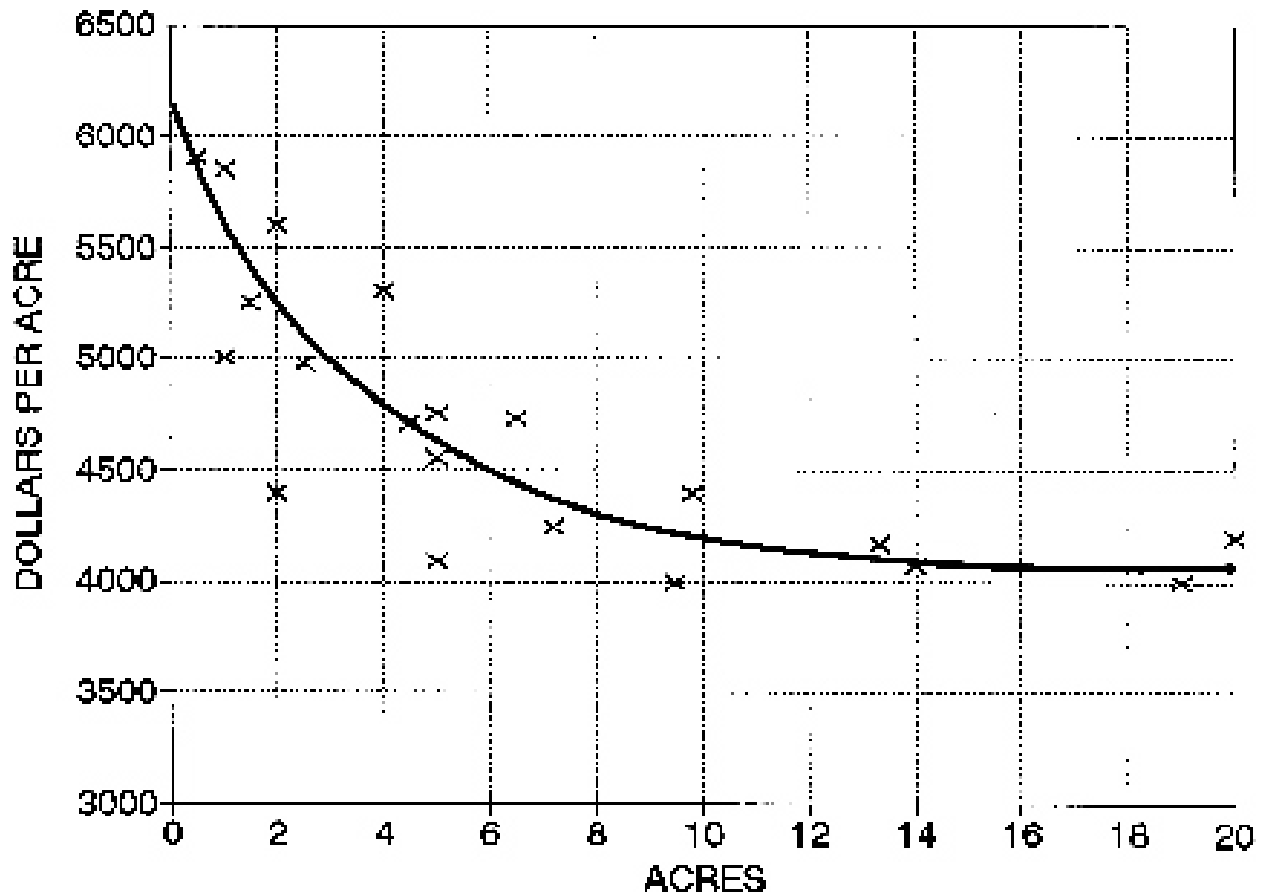
Sales analysis and selection of base unit values are more complex because of motivations of the purchasers, changing land use planning controls, and variety of sizes and types of parcels.

Size Adjustment

When all other amenities are equal, rural tract land parcels generally sell at a price per acre that varies depending on size. For example, a 3-acre parcel may sell for \$14,900 or \$4,967 per acre, while an adjoining 10-acre parcel may sell for \$42,000 or \$4,200 per acre.

Whatever valuation technique is used, resulting values should be plotted on a scatter graph and a land value curve developed. The graph will illustrate the variations in value per acre due to differences in parcel size. Counties with computer capabilities may use regression analysis to provide a curve with greater accuracy.

Land Sales Scatter Graph



Plot sales on the graph by price per acre of vacant land. If improved sales are used, value of all improvements, including OSD, must be extracted from the sale.

Draw a curve through the plotted points to represent the average price per acre based on the land size. Generally, the curve includes all rural land sizes found to be typical in the appraisal area.

An acreage schedule is developed from the scatter graph curve. Make sure uniformity and equity is present in the final acre values. Test the schedule for uniformity of values according to the size of the parcel. This analysis is used to spot any inequities or flaws in the proposed schedule.

Example: Rural Land Schedule

Acres	Price/Acre
1	5,600
2	5,250
3	4,975
4	4,800
5	4,625
6	4,500
7	4,400
8	4,325
9	4,250
10	4,200
11	4,175
12	4,150
13	4,125
14	4,100
15–20	4,075

Next, select a base unit value (base acre value) based on the typical parcel size in the area. Minimum lot size, as dictated by zoning, can be used as the base acre size.

Before developing the size modifier, establish the size range for rural tracts. Ranges may vary from area to area, depending on local conditions. As urban boundaries expand, land use characteristics range between those of urban and rural lands. Valuation impacts can be estimated by careful market analysis.

Once you have determined size ranges, compute size modifiers using the relationship between base acre value and values for each size above or below the base.

In the following example, the base acre value selected as typical is five:

Example: Size Modifier

Value at X acres divided by base acre value = size modifier.

Acre	\$ Per Acre	Size Modifier
1/2	\$5,875 ÷ \$4,625	1.27
3/4	\$5,750 ÷ \$4,625	1.24
1	\$5,600 ÷ \$4,625	1.21
2	\$5,250 ÷ \$4,625	1.14
5 (Base)	\$4,625 ÷ \$4,625	1.00
7	\$4,400 ÷ \$4,625	0.95
10	\$4,200 ÷ \$4,625	0.91
15–20	\$4,075 ÷ \$4,625	0.88

After developing the rural land schedule, select primary benchmarks. Appraise the sales used in the rural land study and apply the acreage values from the rural land schedule. Make a ratio comparison between the new appraised value and the sales price.

$$\text{New appraised value} \div \text{Sale price} = \text{Ratio}$$

These ratios will be the tools to select rural tract benchmarks. For example, you may select a range of ratios between 95 and 105 to be the best benchmarks. Those ratios falling outside this range should be kept as supplemental benchmark information. It is possible that these supplemental benchmarks can be used for atypical or unusual properties.

Write a narrative description of the amenities and characteristics found in the benchmark properties. The benchmark properties will serve as standards when appraising rural land.

The base value is for vacant land. Any improved parcel would have the value of OSD added as a lump sum.

If there are inadequate vacant rural land sales to develop a land schedule, use the sales of improved properties as a supplement. The improvement values and OSD are subtracted from the sale prices, resulting in residual land values. Analyze and plot the sales on a scatter graph according to the size of the parcels.

Other Factors

Plotting sales on a graph will help identify other factors that may affect value such as view, location, access, zoning, and topography. For example, one sale property may be fairly typical with the exception of an excellent view. Another sale property may have a topography or access problem. The indicated price per acre differences for properties with special features or problems will be a guide to adjustments to use on properties with similar conditions.

Land Values in Areas of Limited Sales

In areas where there are too few land sales to develop reliable base units and adjustments through usual procedures, other methods must be considered. To be viable, any method for developing land values must use sufficient information to produce the same level of confidence that a potential buyer would require before making their own informed purchase decisions. Though limited sales create special challenges for an appraiser, several methods are available that can produce satisfactory results. The following discussion is a review of these procedures.

- **Expand the sample of sales by extending it historically.** Analyze those sales that would ordinarily be considered too old to be useful value indicators in a more active market. Sales used in the last reappraisal area, or even during the last reappraisal of the assigned area, should be evaluated for use in the current reappraisal. Regardless of whether the level of unit values turns out to be reliable, the level of adjustments assigned for variations from the base unit may still remain valid.
- **Review historic ratio studies from the area to provide additional support for examining older sales.** If few or no time adjustments have been warranted for the properties in the area for the past number of years, sales that occurred during this period may provide useful information about current land values. Additionally, any value trend adjustments that have been applied to the properties in the appraisal area will give you a general idea of the direction and magnitude of value changes.
- **Expand the sample of sales by extending geographically.** The same rationale that justifies a reexamination of older sales also justifies looking at neighboring communities and even into adjacent counties for sale information.

To support your study, other sources could provide information that affects the highest and best use analysis and the final value conclusion for the land appraised. Compare your study with the following information from other areas:

Rent levels;

Traffic counts;

 Vehicular counts and

 Pedestrian counts.

Area demographic studies;

Chamber of Commerce information; and

Area analyses found in current fee appraisals.

- **Review land sales that were rejected in the ratio studies.** Sales involving religious, charitable, or governmental agencies as grantor or grantee are routinely rejected for use in ratio studies. Frequently, such organizations' involvement in real estate sales lacks typical motivation, so the sale is not considered a normal, arm's-length transaction. However, additional verification may reveal individual sales appropriate for consideration in developing land values. Sales between business associates, sales from financial institutions that gained title to the property through foreclosure, and sales with no dollar consideration stated on the deed could prove valuable with additional verification of their terms and conditions. Even though these sales may be considered tainted for use in a ratio study, they may still be helpful in developing land value conclusions.
- **Survey property value experts who are familiar with the reappraisal area.** These experts might include brokers, bankers, property managers, fee appraisers, and appraisers with other governmental agencies. Talk to owners and lessees about land values while making physical inspections. Don't be afraid to be inquisitive. You may find out about pending sales that are not yet public record. Maintain a current listing file with a brief analysis of their implied unit value, including differences in price due to amenities and location. Investigate rumors, sales that failed in escrow, and refused offers. Consider anything that will give you evidence of land value.

Developing and maintaining discussions with other area real estate experts draws from the collective wisdom of the entire community. This lends support to your final land value conclusions and brings others into an active role in their development. After you have completed your land study, review your conclusions with the experts who were contacted while developing the study. This lends additional support to your conclusions and offers a check on their reasonableness.

- **Use strip maps to plot the land sales and facts affecting value.** If you are appraising an area where sales activity has been sporadic, a strip map can be very helpful in

displaying the big picture. Even when there have been no sales, a strip map can help you form reasonable judgments about the physical boundaries of various levels of land value. Mark the map with anything believed to affect property value within its boundaries.

These might include:

- Zone boundaries:
 - Commercial,
 - Industrial,
 - High-density residential, or
 - Low-density residential;
- Traffic flow patterns:
 - Major arterials,
 - Feeder streets,
 - Direction of traffic,
 - Number of lanes,
 - Location of street lights;
- Patterns of land use:
 - Core business area,
 - Retail strip areas,
 - Industrial uses,
 - Residential (bedroom) areas,
 - New development,
 - Areas of stagnation or decline,
 - Extent and type of utilities;
- Listings:
 - Bare land/improved;
- Rent levels:
 - Along a major street,
 - Within the boundaries of various land uses,
 - Compared with one block back;
- Tentative boundaries for base land values.

On a map, note the various factors that affect land value. Reasonable boundaries for land value estimates frequently suggest themselves. After making tentative assignments for these and ensuring that they “feather out” in a reasonable way into

the surrounding neighborhoods, field review your conclusions and discuss them with other real estate professionals in the area. Reviewing value assignments this way provides corroboration and another check against overlooking important elements that affect value.

- **Find and analyze land leases.** Land leases can be converted into a unit of comparison by capitalizing the annual rent with an appropriate rate. Land leases are most frequently negotiated on a net lease basis, so that gross income is also net income. All that is needed to convert the rent into a land value indication is an appropriate overall land capitalization rate. Land is treated as a non-depreciating property, so no recapture increment is needed in the overall rate. Further, since the rent will likely be on a net basis, the lessee will likely also be paying the property taxes. Therefore, an appropriate overall rate to apply to the rent will be the same as the discount rate displayed by sold properties under comparable use. Ideally, these come directly from leased land that has sold. Since few such transactions are generally available for analysis, sales of improved properties can be used to provide a reasonable source of cap rates.

Example of a rented convenience store site:

Annual rent	\$14,400 net (lessee pays taxes)
Land area	30,000 square feet
Effective tax rate	\$15 per \$1,000
From improved sale in comparable use:	
Overall cap rate	.120
Building portion of value	75%
Remaining economic life	30 years

First, calculate the recapture rate (straight-line). Thirty years implies 1/30th of the building value is recaptured annually. Expressed as a decimal, 1/30th equals .0333. Since 75 percent of the property value is in the improvements, the weighted recapture rate in the overall rate is $.0333 \times .75$, or, .0250. Now you can derive the land capitalization rate and convert the income into a land value estimate.

Overall cap rate	.120
Less weighted recapture	– .025
Less effective tax rate	– .015
Land cap rate	.080

Net land income divided by land cap rate equals value:

$$\$14,400 \div .080 = \$180,000$$

This implies a unit value of:

$$\$180,000 \div 30,000 \text{ sq. ft.} = \$6.00 \text{ per sq. ft.}$$

The analysis produces a value indicator of \$6 per square foot for land in the area of the leased convenience store.

- **Use land residuals from improved sales.** Follow the procedure as outlined on page 3 of this chapter or in Chapter 6, "Income Approach."
- **Use the allocation method to estimate land value.** Follow the procedure as outlined on page 2 of this chapter.