



DEPARTMENT OF  
ASSESSMENTS & TAXATION

# Land / Site Valuation A Basic Review

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***“Whose is the land, it is to the sky and the depth”***



## “Whose is the land, it is to the sky and the depth”

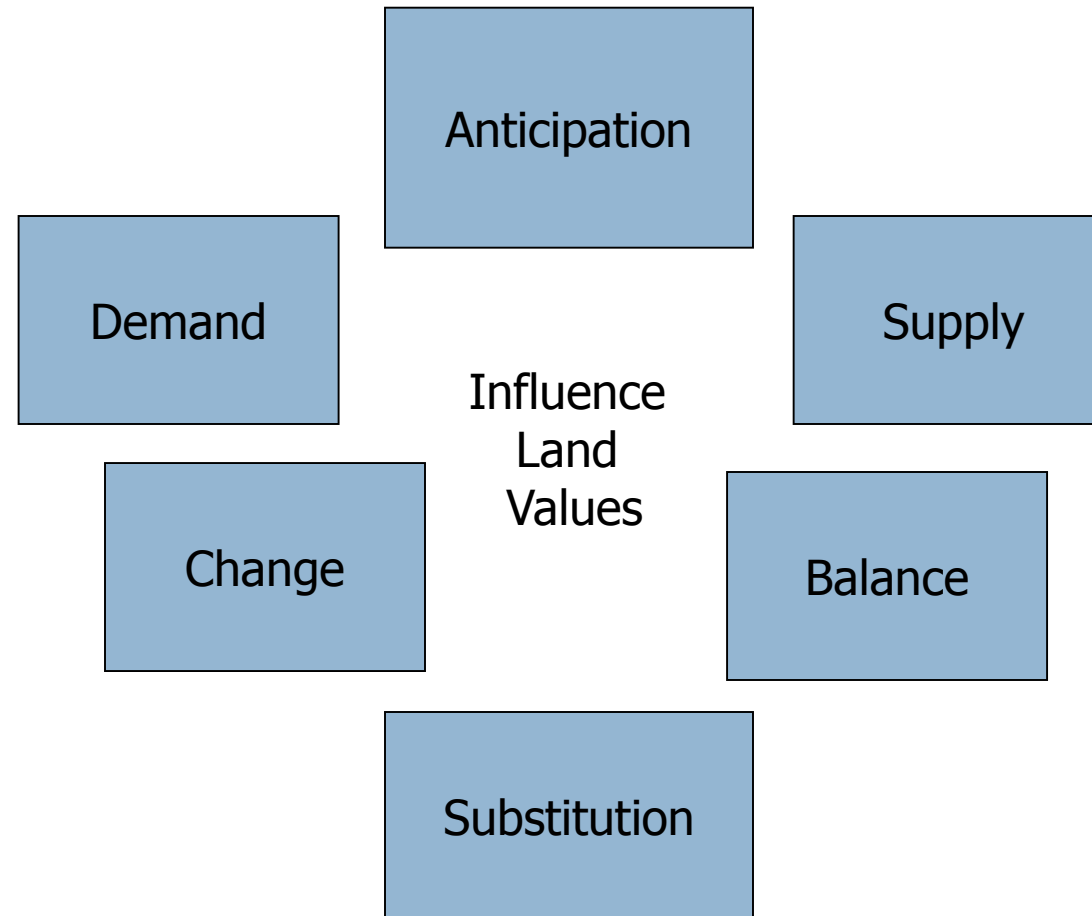
This ancient maxim is the basis of the following legal definition:

**Land...** includes not only the ground, or soil, but everything that is attached to the earth, whether by Course of nature, as are trees and herbage, or by

the hand of man, as are houses and other buildings. It includes not only the surface of the earth is just part of an inverted pyramid having its tip, or apex, at the center of the earth, extending outward through the surface of the earth at the boundary lines of the tract, and continuing on upward to the heavens <sup>1</sup>

1. Raymond J. Werner and Robert Kratovil, Real Estate Law 10<sup>th</sup> Ed. (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1993)

## Relation to Appraisal Principles



# Uniform Standards Of Professional Appraisal Standards 2016-2017

## Standards Rule 1-3

When necessary for credible assignment results in developing a market value opinion, an appraiser must:

- (a) Identify and analyze the effect on use and value of existing land use regulations, reasonably probable modifications of such land use regulations, economic supply and demand, the physical adaptability of the real estate, and market area trends; and
- (b) Develop an opinion of the Highest and Best Use

Land is always valued to its highest and best use (when estimating market value).

# HIGHEST AND BEST USE

The reasonably probable and legal use of vacant land to which is physically possible, appropriately supported, financially feasible, and that results in the highest value.

# TESTS OF HIGHEST & BEST USE

Physically possible

Legally permissible

Financially feasible

Maximally productive

*The tests of highest and best use should be applied in order.*



# Site



- ▶ Land suitable for building purposes. When land is improved with utilities (water, gas, electric) it becomes a site and is considered suitable for building purposes.

# Underlying Ideas

Site is valued as though vacant and ready for its legal optimum, of highest and best, use

Appraisal techniques, numbers and formulas may be used to provide a foundation for judgment; but never a substitute for judgment

The market decides how much a site is worth or *market value*; “The market talks and the appraiser listens!”

# Site Data

Identification

Highest and best use

Physical features

Size, location, utilities, improvements, soil composition,  
flood/earthquake zone

Zoning

Easements, rights-of-way, CC&Rs

# Environmental Concerns

## Toxic substances

Air, water, ground, structures

## Endangered species

## Wetlands

## Brownfields

Abandoned or underutilized property that may or may not be contaminated

Information on regional offices of EPA:

202-260-1223

[epa.gov/swerosps/bf](http://epa.gov/swerosps/bf)



# Physical Characteristics of the Land

- ❖ Site, size and shape
- ❖ Corner influence
- ❖ Topography
- ❖ Utilities
- ❖ Site Improvements
- ❖ Accessibility
- ❖ Environment

# TECHNIQUES TO ESTIMATE LAND VALUE

- ❖ Sales Comparison
- ❖ Allocation
- ❖ Extraction
- ❖ Subdivision Development/Discounted Cash Flow Analysis/Anticipated Use
- ❖ Land Residual
- ❖ Ground Rent Capitalization

# SALES COMPARISON

A land valuation technique in which the subject property is compared to similar or comparable properties that have sold recently. A value indication is derived by comparing the properties using an appropriate unit of comparison and then making adjustments to the sales prices of the comparables based on various elements of comparison.

# Sales Comparison Approach

Based on idea that value is indicated by actual sales prices of similar sites.

Accomplished by comparing the appraised site to other similar, competitive, comparable sites which have recently sold.

Comparison adjustments are made to the price for differences;

- ❖ positive (+) when subject is superior
- ❖ negative (-) when subject is inferior



# Sales Comparison Approach

Sales Price of  
Comparable Property

+

-

Adjustments

=

Indicated Value of  
Subject Property

# SALES COMPARISON

**Units of comparison** – the units by which a particular type of property is bought or sold.

*For example: room count, sq. ft., baths, bedrooms, basements, finished rooms below grade, style, etc.*

**Elements of comparison** – those characteristics that make the price of one property vary from another.

*Remember, elements of comparison are any aspects of a property that can cause a difference in value.*

# Units of comparison

## Units of Measurement

Per front foot

Acres

Square feet

Per lot

# Elements of Comparison

## *Adjustments*

Location

Physical characteristics of the lot

financings concessions

terms of sale



# SALES COMPARISON

Based on the Principle of Substitution

Data needed includes:

- 1) Comparable land sales;
- 2) Support for adjustments for the elements of comparison.

# Data for Sales Comparison Approach

Recent sales

Similar features

Financing terms

Arm's-length transaction

Sources of data

- Appraiser's own records

- Official records of deeds

- Real estate assessor's office

- Multiple listing service

# SALES COMPARISON - APPLICATIONS

Sales comparison has the widest applications of the land valuation techniques.

Can be used to value any type of land, if there are available comparable sales.

Generally is considered to be the most reliable of the land valuation techniques.

# SALES COMPARISON – LIMITATIONS

A lack of sales data limits the reliability of this approach.

A lack of **comparable** sales limits the reliability of this approach.

Based on historic data, while present value is created by expected future benefits – so any recent significant changes in market conditions may limit the reliability of this approach.



# ALLOCATION

A land valuation technique in which an estimate of value is derived by determining a typical ratio of site value to total property value. This ratio is then applied to the improved property being appraised or to a comparable improved.

# ALLOCATION

Investigate market standard ratio; what % that site represents of the total price

Example: from the market typically find:

Total Property	100%
less (-) improvements	<u>80%</u>
equal (=) site	20%

Then apply the site % to the total property values typical of subject type and location to find estimated contribution of the site.

# ALLOCATION

Based on Principle of Balance

Data needed includes:

- 1) Ratio of land value to overall property value;
- 2) Market Value of improved subject property (or of improved properties in the area of the subject property).

# ALLOCATION

Sources of data for ratio of land value to overall property value include:

- 1) Assessment records;
- 2) Developers or builders;
- 3) Sales of vacant lots and improved properties in another location (neighborhood).

## ALLOCATION EXAMPLE

The appraisal assignment calls for the appraiser to estimate the market value of the underlying land of a lot improved by a single family residence located in a stable neighborhood of predominantly 40 – 50 year old residences. No vacant lot sales are found. The appraiser estimates that the market value of the improved subject property is \$400,000. Based on the Assessment Department database, the appraiser concludes that land value typically is 35% of the improved property value in this area. Therefore:

$$\$400,000 \times 35\% = \$140,000$$

# ALLOCATION – APPLICATIONS

May be used for the valuation of vacant or improved lots (land only).

It should be used only when there are not sufficient land sales to use the sales comparison approach or;

If the assignment requires only a range of value, such as a check for reasonableness.

Often used in urban or rural areas.

Can be used if there are no vacant land sales.



# ALLOCATION LIMITATIONS

Should not usually be used as a primary method of estimating land value, due to lack of accuracy.

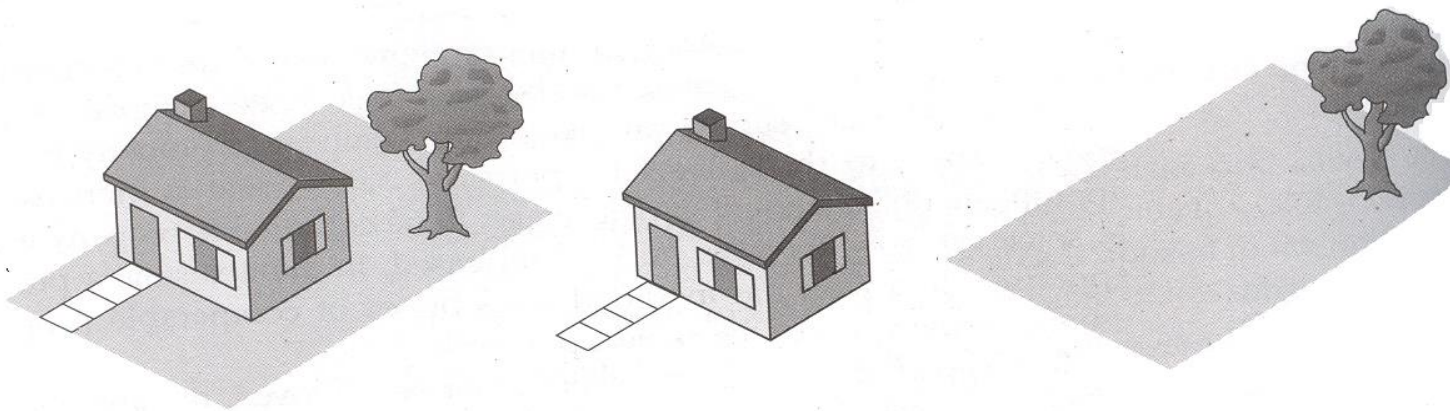
Ratio of land to total property value may be difficult to support.

Generally recognized as the least reliable land valuation technique.

# EXTRACTION

A land valuation technique in which the depreciated cost of the improvements on an improved property is estimated and then deducted from the market value of the improved property. The difference is the estimated land value.

# EXTRACTION



<b>\$279,000</b>	<b>less 204,000</b>	<b>= \$75,000</b>
<b>Sale Price</b>	<b>Cost of Improvements Less Depreciation</b>	<b>Land Value</b>

# EXTRACTION

Based on the cost approach (substitution).

Data needed includes:

- 1) sales of improved properties, in the area of the subject property, **where the underlying land is similar to subject** (does not require land sales);
- 2) Replacement Cost New (of the improved properties in #1);
- 3) Accrued Depreciation (of the improved properties in #1).

# EXTRACTION - APPLICATIONS

May be used for the valuation of vacant or improved lots (land only).

Most reliable when the improvement's contribution to total property value is small and relatively easy to identify.

Often used in either urban or rural areas.

Can be used when there are no vacant land sales.

## EXTRACTION - LIMITATIONS

Improvements which have high amounts of accrued depreciation tend to lessen the reliability of this technique.



# SUBDIVISION DEVELOPMENT

A land valuation technique in which costs of development (direct and indirect costs, as well as entrepreneurial profit) are deducted from an estimate of the anticipated gross sales price of the finished lots expected to be developed at the subject parcel. The resulting net sales proceeds are discounted to present value based on a market-derived rate over the development and sales period to indicate the current market value of the raw land.

# SUBDIVISION DEVELOPMENT

The subdivision development can be thought of as “*following in the footsteps*” of a developer who is contemplating developing a subdivision on the subject land parcel.

# Subdivision Development

Used for land with near-term subdivision potential. Finding how much a developer would pay for the land considering potential revenue from development, less allowance for direct and indirect outlays, profit, and time delay.

Example: (oversimplified)

Revenue: 100 lots @ \$5,000 = \$500,000

Less Development expense & Profit incentive: \$400,000

Net to the Land: \$100,000

Present worth @ xx% for # years: \$ 65,000

*Note: time delay & profit must be included!*

General layout is a discounted cash flow analysis

# SUBDIVISION DEVELOPMENT

Based on the income capitalization approach (which is based on the principle of anticipation).

Also known as Anticipated Use or Discounted Cash Flow Analysis.

# SUBDIVISION DEVELOPMENT

Data needed includes:

Developmental analysis

Marketing analysis

Complete development expenses

Comparable lot sales

# SUBDIVISION DEVELOPMENT PROCEDURE

Estimate total project time, including development and sell out periods.

Project gross sales for each period by multiplying # of lot sales by the projected lot sale price.

Deduct appropriate development expenses for each period.

Discount cash flows back to present value.



# SUBDIVISION DEVELOPMENT - APPLICATIONS

This technique applies to the valuation of subdividable land.

This technique should only be used when the highest and best use of vacant land is for more or less immediate subdivision.

This technique cannot be used to value an individual lot.

May be used for residential, commercial, or industrial land( or any other land which has a highest and best use for subdivision).

# SUBDIVISION DEVELOPMENT - LIMITATIONS

Accurate projections of development and sell out periods can be difficult.

Identifying all development expenses can be difficult.

Selection of an appropriate discount rate can be difficult.

# LAND RESIDUAL

A land valuation technique in which the net operating income attributable to the land is estimated (from total property income) and then capitalized to produce an estimate of land value.

# Land Residual

Used when a total property total market net income is known or estimated, and land and building capitalization rates may be found in the market.

For example: if we find a 2% recapture, or “return of” rate and 8% “return on” investment in the market, and ...

Net Operating Income: \$100,000

Less income to the Building: 35,000

(if building value \$350,000 x 10% bldg. cap rate ( $R_B$ ))

Residual to the land: \$ 65,000

Land Value: ( $V=I/R_L$ );  $\$65,000 \div 0.08 = \$812,500$

# LAND RESIDUAL

Based on the income capitalization approach (which is based on the principle of anticipation).

To apply this technique:

Subject must be an income producing property.

Improvements must represent the highest and best use of the site.

# LAND RESIDUAL

Data needed includes:

Value of the Building ( $V_B$ )

Net Operating Income (NOI)

Building Capitalization Rate ( $R_B$ )

Land Capitalization Rate ( $R_L$ )

# LAND RESIDUAL

Requires the use of the direct capitalization.

Capitalization means the conversion of income into value.

$$V = I/R$$

$$\frac{I}{R \times V}$$



## LAND RESIDUAL EXAMPLE

A small office building was just constructed on a site which represents the highest and best use of the site.

Building Value = \$1,800,000

(based on construction costs)

Net Operating income = \$208,000

(based on projected market rent and operating expenses)

Building Cap Rate = 10%

Land Cap Rate = 7%

## LAND RESIDUAL EXAMPLE

$$R_B \times V_B = I_B$$

or  $10\% \times \$1,800,000 = \$180,000$

(income attributable to the building)

$$\text{NOI} - I_B = I_L$$

or  $\$208,000 - \$180,000 = \$28,000$

(residual income for land)

$$I_L / R_L = V_L$$

or  $\$28,000 / 7\% = \$400,000$  (land value)

# LAND RESIDUAL - APPLICATIONS

Typically will be used only when comparable sales are not available.

Useful in testing alternative potential uses in highest and best use analysis.

Typically will not be used in the valuation of residential land because it is not typically income producing.

# LAND RESIDUAL - LIMITATIONS

This technique is not typically how market participants analyze land value.

Has been recognized by many courts as being speculative and therefore is not considered to be particularly reliable.

# GROUND RENT CAPITALIZATION

A land valuation technique in which market rent (or contract rent, if applicable) for land is capitalized into an estimate of value using a market derived rate.

# GROUND RENT CAPITALIZATION

Based on the income capitalization approach (which is based on the principle of anticipation).

Data needed includes:

Land Income ( $I_L$ )

Land Capitalization Rate ( $R_L$ )

# GROUND RENT CAPITALIZATION PROCEDURE

Estimate the income for the subject based on either contract rent (lease) or market rent (comparable rentals).

Select an appropriate land capitalization rate based on sales of land parcels which were leased at the time of sale ( $I_L/V_L = R_L$ ).

Apply direct capitalization formula ( $I_L/R_L = V_L$ ).



# GROUND RENT CAPITALIZATION EXAMPLE

A pad site at a shopping center is leased to a gasoline service station for 30 years. The annual rental rate is \$30,000 per year. An appropriate capitalization rate of 6% is extracted from the market.

Land Rental = \$ 30,000

Land Cap Rate = 6%

Land Value ( $I/R = V$ ) or

$\$30,000/6\%$  = \$500,000

## GROUND RENT CAPITALIZATION APPLICATIONS

This technique can be used for the valuation of leased commercial land (such as pad sites), since it may reflect the market's view of such land.

This technique can also be used to value agricultural land when agricultural use is the highest and best use.

Typically, will not be used in the valuation of residential land which is not typically income producing.

However, there are a few instances of land leases for residential properties as land values increase.

Forms the basis for the valuation of "ground rents" in Maryland.

# GROUND RENT CAPITALIZATION LIMITATIONS

Because this technique applies to leased land (typically commercial) the technique is usually used as a check of the sales comparison approach.

Sufficient sales of properties leased at market rates may not be available.

## Key Points:

A site is valued as though vacant and ready for its highest and best use, or legal optimum use.

Sales Comparison approach is normally preferred; it works best if there is sufficient recent comparable sales data

- ❖ Sales should be similar location, size, financing, amenities, AND have the same highest and best use as the subject.
- ❖ Data should always be confirmed to find motivations, financing impact, and other details.

## Key Points, continued ...

Comparison adjustment amounts must be from market information

Selection of unit-of-comparison must be based on market standards

Formulas and tables to adjust for items such as corner influence and depth are usually too abstract and simply don't relate sufficiently to use.

Appraisal techniques provide a basis, not a substitute, for judgement in the final conclusion.



*“Great Presentation,  
I haven’t slept that good in weeks”*