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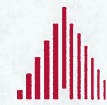


**Appraisal  
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*Professionals Providing  
Real Estate Solutions*

# The Appraisal of Real Estate

Fifteenth Edition





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### Fundamental Demand Forecast for Other Property Types (Over and Above Analysis of Inferred Demand)

Property Type	Considerations in Analysis of Fundamental Demand
Single-unit residential subdivision	<ul style="list-style-type: none"> <li>• Current and projected population and households within the defined market area</li> <li>• Current and forecasted future ratio of owner-occupied households</li> <li>• Household income and affordability limits to segment demand by price range</li> <li>• Housing-type preferences for segment households (ratio of households who choose detached housing versus townhouses, stacked condominiums, or other)</li> </ul>
Apartment complex	<ul style="list-style-type: none"> <li>• Current and projected population and households within the defined market area</li> <li>• Current and forecasted future ratio of renter-occupied households</li> <li>• Household income and affordability limits to segment demand by rent range</li> <li>• Housing-type preferences for segment households (ratio of households who choose apartment units over other types of rental units)</li> </ul>
Office building	<ul style="list-style-type: none"> <li>• Size of the workforce occupying office space</li> <li>• Proportion of demand in the subject property's competitive class (e.g., Class A, Class B, Class C)</li> <li>• Requisite space per worker</li> <li>• Normal (equilibrium) vacancy rate</li> </ul>
Hotel	<ul style="list-style-type: none"> <li>• Current demand (e.g., number of room nights)</li> <li>• Segmentation of demand (commercial, meetings and groups, leisure, etc.)</li> <li>• Statistics and forecasts for drivers of each demand segment (e.g., business statistics for commercial, tourism and travel statistics for leisure)</li> <li>• Segmentation of demand by property type (e.g., full service, limited service, extended-stay.)</li> <li>• Segmentation of demand by room rates</li> </ul>
Industrial property	<ul style="list-style-type: none"> <li>• Employment in sectors using industrial space (e.g., manufacturing, wholesale, retail, transportation, communications, or public utilities)</li> <li>• Requisite space per worker</li> <li>• Patterns and directions of industrial growth and development, which often cluster along major highways and around intersections</li> <li>• Statistics and forecasts for other drivers of demand; for example, population growth and retail activity for warehouse demand</li> </ul>

### Residual Demand Analysis

In a Level C market analysis, the analysis of market conditions is facilitated by calculating residual demand, i.e., the demand that is not satisfied by available supply. In other words, residual demand is the amount of undersupply (i.e., a negative number in an oversupplied market). Residual demand is calculated by adjusting demand for equilibrium vacancy and then deducting supply:

$$\text{Adjusted or Supportable Demand} = \frac{(\text{Measured Demand})}{(1 - \text{Equilibrium Vacancy Rate})}$$

This adjustment accounts for the fact that a market needs a certain amount of vacant space to operate in an orderly fashion.

The residual demand calculation in a fundamental analysis can be condensed to five lines as illustrated in Table 16.1. In the calculation of residual demand, existing and forecasted demand over the market cycle is compared with current and anticipated competitive supply to predict the amount of oversupply or undersupply at various points in time. Analysis of residual demand patterns allows appraisers to forecast the pattern of changes in the market cycle, to estimate when additional space will be needed in the market, and to determine the likely pattern of market rent. For example, the figures in Table 16.1 relate to a market with a current supply of 712,400 square feet and a current occupancy rate of 90.2%. A new shopping center of 90,000 square feet is expected to be completed within the next five years, which will significantly oversupply the market and push the market occupancy rate down to about 86% by Year 5. Due to a forecasted increase in demand, however, the oversupply will be filled by about Year 9 and the market will have a small undersupply by Year 10. With these calculations, an appraiser could reasonably conclude that market rents are likely to be flat or decreasing in the first five years but trend upward at some point in Years 5 to 10. Residual demand (the difference between supportable demand and the supply of existing and anticipated retail space) would be the estimate of additional space needed in the market.

Another useful calculation in Step 5 of the six-step process is the ratio of demand to supply, which is calculated simply as unadjusted demand divided by supply. When there is no pent-up demand and no artificial demand, the ratio of demand to supply is a measure of market occupancy.

**Table 16.1** Residual Demand Calculations (Step 5)

Line	Current	Year 5	Year 10
1 Current and forecasted demand (sq. ft.)	642,300	689,200	749,600
2 Adjustment for equilibrium vacancy [1 minus equilibrium vacancy rate]	+ 0.92	÷ 0.92	÷ 0.92
3 Adjusted (supportable) demand [Line 1 ÷ Line 2]	698,152	749,130	814,783
4 Current and forecasted supply (sq. ft.)	712,400	802,400	802,400
5 Residual demand [Line 3 – Line 4]	-14,248	-53,270	12,383
6 Ratio of demand to supply [Line 3 ÷ Line 4]	90.2%	85.9%	93.4%

Other inferred market condition tools include rent trend analysis, feasibility rent analysis, and analysis of sales per square foot for individual stores. Rent trend analysis investigates the direction of change in rent levels. For example, rents may be rising at similar amounts as previous years, or rents may be increasing but not at the same rate. Some real estate professionals believe that an increase in rent at a declining rate is a sign of the peak of the market.

Sales per square foot in individual retail stores may indicate the performance level of an existing shopping center, the center's share of the market, and whether there is opportunity for expansion. This data may be used to check the reasonableness of the estimate of additional space demanded.

### Vacancy in Residual Demand Studies

All real estate markets need some vacant space to allow space users to move in and move out and to accommodate anticipated increases in demand in the short term. Equilibrium vacancy is the vacancy rate when a market is at equilibrium, with no upward or downward pressure on rents. The equilibrium vacancy rate, also known as *normal vacancy* or *natural vacancy*, varies from market to market based on construction costs, land availability, the rate of growth in demand, and other factors. If there is an undersupply in the market, residual demand is the amount of new construction that can be supported. If there is an oversupply, an analysis of residual demand at various points in time can provide a prediction of when the market will return to equilibrium.

### Subject Capture Analysis (Marketability Analysis Conclusions)

Subject capture is the amount or ratio of market demand a subject property is expected to capture. Subject capture analysis generally begins with an estimate of pro rata share, which is then adjusted to account for the competitive strength of the subject property relative to competitive retail centers. For example, suppose that the subject property is a 90,000-square-foot retail center in the market outlined in Table 16.2.

Because the subject property represents 11.22% of market supply in Year 5—90,000 sq. ft. in the subject property / 802,400 sq. ft. in the market—its pro rata share of demand in that year is also 11.22%. Suppose also that property

**Table 16.2** Subject Capture

Forecasted market demand in Year 5	689,200
Subject capture rate (103% of pro rata share)	11.56%
Subject capture (occupied sq. ft.)	79,672
Subject leaseable sq. ft.	90,000
Subject occupancy ratio	88.5%

productivity analysis (Step 1) and supply analysis (Step 4) show that the competitive characteristics of the subject property are above average, and the appraiser concludes that the property's appropriate capture rate is 3% above the property's pro rata share, or 11.56% (11.22% pro rata share  $\times$  1.03). The subject property's occupancy rate in Year 5 could therefore be forecast as indicated in Figure 16.1. Although the forecast of market occupancy in Year 5 was just 85.9%, the forecast of occupancy for the subject property specifically in Year 5 is 88.5% because of its superior competitive characteristics.

Because retail concepts can change quickly, subject capture is especially difficult to forecast for retail properties. Therefore, it is often appropriate for good marketability studies to include high-, mid-, and low-range forecasts to report the full range of likely outcomes.



## Highest and Best Use Analysis 17

The analysis of highest and best use can be thought of as the logical end of a spectrum of market analysis procedures, running from the study of a property's market area, through more detailed marketability studies into the financial analysis of alternatives to determine the most profitable use, and finally to the reconciliation and formal conclusion of highest and best use, the timing of that use, and the most probable buyer. All these forms of analysis are interrelated processes that measure the economic potential of alternative uses of real estate.

The essential components of the analysis of *highest and best use* are contained in the following definition of the term:

The reasonably probable use of property that results in the highest value.

This simple definition will serve as a point of departure for examining the concept in the rest of this chapter.

To be *reasonably probable*, traditionally a use must meet certain conditions:

- The use must be *physically possible* (or it is reasonably probable to render it so).
- The use must be *legally permissible* (or it is reasonably probable to render it so).
- The use must be *financially feasible*.

Uses that meet the three criteria of reasonably probable uses are tested for economic *productivity*, and the reasonably probable use with the highest value is the highest and best use.

Conceptually, the criteria of highest and best use are self-explanatory. That is, *physically possible* uses are land uses that are not unworkable because of some limiting physical characteristic of the land such as inadequate site size, odd shape, irregular topography, or poor soil quality. For example, a steeply sloped site may limit the use of the land to only a few possible alternatives. In contrast, a level plot of land with good drainage, soil with adequate bearing capacity, and other physical characteristics conducive to the construction of improvements would likely allow a developer to build many different types of facilities.

Based on similar logic, *legally permissible* uses would conform to the land's zoning classification and local building codes along with any other relevant regulatory or contractual restrictions on land use. The requirement for legally permissible uses eliminates many possible uses because they would not be allowed with the zoning laws, subdivision covenants, deed restrictions, leases, or other contractual obligations of the property owner. For example, the highest and best use of a site for development as a fast food restaurant with dine-in facilities might be eliminated because the site is smaller than the minimum size to meet the parking requirements of that use set by local regula-

### The Difficulty of Defining Highest and Best Use

The definition of *highest and best use* has evolved over time to address the common understanding of the topic. Traditionally, the explanation of the term has been more elaborate than the definition introduced in the 14th edition of *The Appraisal of Real Estate*. For example, earlier definitions of the term included ambiguous language that has often been commented on but never defined, as seen in the entry for the term in the fifth edition of *The Dictionary of Real Estate Appraisal*:

#### highest and best use

The reasonably probable and legal use of vacant land or an improved property that is physically possible, appropriately supported, financially feasible, and that results in the highest value. The four criteria the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity. Alternatively, the probable use of land or improved property—specific with respect to the user and timing of the use—that is adequately supported and results in the highest present value.

The precise meaning of “appropriately supported” has been debated in the appraisal literature almost since the basic template of this definition of *highest and best use* was developed in the mid-1970s.

A streamlined definition was later developed for the Appraisal Institute course *General Appraiser Market Analysis and Highest & Best Use* (2008), reducing the ambiguous language while eliminating direct reference to the four traditional tests of highest and best use:

#### highest and best use

The reasonably probable use that produces the most benefits and highest land value at any given time.

In early editions, the International Valuation Standards had defined *highest and best use* in a similar fashion as *The Dictionary of Real Estate Appraisal*, fifth edition. However, the 2017 edition of the standards removed the definition and instead described highest and best use as “the use of an asset that maximises its potential and that is possible, legally permissible and financially feasible” in the standards document's discussion of bases of value. (Section 30.4, General Standards—IVS 104)

The *Uniform Appraisal Standards for Federal Land Acquisitions* (most recently updated in 2016) defines *highest and best use* as the “highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future,” citing federal case law as a source. (Section 4.3)

Historically, other concepts have been championed as alternatives to the term *highest and best use* as a description of what use of vacant or improved land should be analyzed, depending on the nature of the appraisal assignment:

#### most probable use

1. The use to which a property will most likely be put based on market analysis and the highest and best use conclusion. The most probable use is the basis for the most probable selling price of the property.
2. Highest and best use in the context of market value.

(*The Dictionary of Real Estate Appraisal*, 6th ed.)

#### most profitable use

Highest and best use in the context of investment value.

(*Real Estate Appraisal Terminology*, rev. ed.)

Usage of *most probable use* in the appraisal literature has dropped significantly in the last 20 years, while the alternative related to investment value, *most profitable use*, is now largely used in the context of valuation for litigation purposes.



tions. However, as discussed later in this chapter, the reasonable probability of a zoning change can be a consideration of potential land uses not allowed by current zoning.

The analysis of *financial feasibility* narrows the number of legally permissible and physically possible uses down further through analysis of the economic characteristics of the potential alternative uses. Economic demand for the subject property is a requisite to the financial testing of alternative uses. Any uses that are not worth at least what they cost to produce would be eliminated in the test of financial feasibility.

The remaining options are candidates for the test of *maximum productivity*, which is the final—and deciding—criteria for the highest and best use of both the land as though vacant and the property as improved.

Traditionally, to test alternative uses of a property in highest and best use analysis, appraisers have analyzed the four criteria in the following order:

1. Legal permissibility
2. Physical possibility
3. Financial feasibility
4. Maximum productivity

The criteria of physical possibility and legal permissibility could be analyzed in either order, but as a practical matter they both must be analyzed before the criteria of financial feasibility and maximum productivity. A use may be financially feasible, but this is irrelevant if the land use is legally prohibited or physically impossible. Likewise, the analysis of financial feasibility filters out uses that lack enough demand in the marketplace to compete for consideration as the use with the highest value, and therefore the analysis of financial feasibility necessarily precedes the analysis of maximum productivity.

## Land as Though Vacant and as Improved

A fundamental concept of highest and best use is the idea that highest and best use is viewed from two perspectives:

- The use of the real estate based on the presumption that the parcel of land is vacant or can be made vacant by demolishing any improvements (i.e., as vacant or as if vacant)
- The use that should be made of the real estate as it exists (i.e., as currently improved or as if improved as proposed)

The highest and best use of land as though vacant and the highest and best use of the real estate as improved are connected but distinctly different concepts.

The analysis of land as though vacant focuses on alternative uses of the land, with appraisers analyzing each reasonably probable use. In the analysis of highest and best use of land as though vacant, appraisers seek the answers to several questions:

- Should the land be developed or left vacant?
- If left vacant, when would future development be financially feasible?
- If developed, what kind of improvements should be built?

In contrast, when appraisers analyze the highest and best use of the real estate as improved, the focus on alternative uses considers three possible actions related to the current improvements:

1. Retain the improvements.
2. Modify the improvements in some way, such as conversion, renovation, or alteration.
3. Demolish the improvements and redevelop the land.

The analysis of the highest and best use of the real estate as improved answers a different question than the analysis of the land as though vacant:

- Should the existing improvements on the property be maintained in their current state, should they be altered in some manner to make them more functionally efficient, or should they be demolished to create a vacant site for a different use?
- If renovation or redevelopment is warranted, when should the renovations or redevelopment occur?

In some situations, a property may be subject to restrictions (e.g., historic preservation) that prevent the improvements from being demolished. In this case, the highest and best use is limited by the restriction. A lease of the property may also restrict highest and best use alternatives because the lease will allow the tenant to control the land use for the term of the lease.

### **Legally Permissible Uses of Land as Though Vacant**

Zoning, building codes, private restrictions, historic district controls, and environmental regulations govern the uses to which land can be put, and those restrictions may preclude many potential land uses. To analyze legal permissibility, an appraiser determines which uses are permitted by current zoning, which uses could be permitted if a zoning change were reasonably probable, and which uses are precluded by private restrictions on the site, depending on the intended use of the appraisal.

Private restrictions and deed restrictions such as conservation and historic preservation easements as well as long-term leases are typically registered on the title, and those legal characteristics of the property may prohibit certain uses or specify building setbacks, heights, and types of materials. If deed restrictions conflict with zoning laws or building codes, the more restrictive guidelines usually prevail, but this may pose a legal question that must be obtained from a professional with the appropriate legal expertise.

A long-term land lease may affect the highest and best use because lease provisions can limit the type and duration of use over the remaining term of the lease. For example, if a property is subject to a land lease that has twelve years remaining on the term, it may not be economically feasible for the lessee to demolish the existing building and then construct and move into a new building with a longer remaining economic life because the right of possession of the building reverts to the lessor at the end of the lease. In that case, the determination of highest and best use of the property as leased is influenced by the lease's effect on the utility of the land over the remaining lease term. As another example, some medical office buildings that are built on hospital campuses have covenants that state that owners of the property are restricted to only doctors who have privileges at that hospital. This sort of private restriction can reduce the pool of possible buyers of this sort of property to a few or none. That is, the current owners may be the only possible users. In contrast, some legal issues can be positive influences that enhance a property. For example, a cross easement for access or parking may increase the marketability of some alternative use options of a given site.

In addition to analyzing zoning and private restrictions as part of the test of the legal permissibility of a land use, appraisers should investigate other applicable

codes and ordinances, such as building codes, historic district ordinances, and environmental regulations. Building codes can prevent land from being developed to what would otherwise be its highest and best use by imposing burdensome restrictions that increase the cost of construction. For example, the additional cost of a water retention pond with excess capacity that is required by a local ordinance could affect the size of a proposed community shopping center. Less restrictive codes typically result in lower development costs and thereby encourage development, while more restrictive codes tend to increase development costs and discourage development. In some areas, restrictive building codes are used to slow new construction and limit

### Probability of a Zoning Change

In investigating the reasonable probability of a zoning change, appraisers consider zoning trends and the history of rezoning requests in the market area as well as documents such as the community's comprehensive plan (or master plan). Appraisers can usually eliminate the following from consideration as potential highest and best uses:

- Uses that are not compatible with the existing land uses in the area, such as a gas station in the middle of an exclusive single-unit residential subdivision
- Uses for which zoning changes have been requested but denied in the past, such as an industrial use in an area where several industrial zoning changes have been turned down in the past two years

On the other hand, a zoning change from residential use to commercial use may be reasonable if other properties in the market area have received a similar zoning change recently or if a community's comprehensive plan designates the property for a use other than its current use. For example, consider a site zoned for single-unit residential use in a transitional neighborhood where the zoning on several similar sites has been changed recently to commercial. Also, the city's comprehensive plan designates the property as lying within a future commercial corridor. Both of these factors may support an appraiser's conclusion that there is a reasonable probability of rezoning the subject site for commercial use.

Market evidence supporting the possibility of new zoning can include rezoning applications, zoning hearings, actions by municipalities, and interviews with planning and zoning officials. Even if there is no current market evidence of a zoning change, documented interviews with officials and discussions of zoning practices and histories can be helpful in evaluating the possibility of a zoning change. These interviews, like any other market evidence, may, however, not be "proof" of a likely change or the denial of a change in zoning but rather only support the estimate of the probability of a change in zoning. Decisions on zoning ordinances are made by elected officials, and the processes are often heavily contested, costly, and time-consuming. The outcomes are not known for certain until official actions are taken.

The probability of a zoning change is never 100%, which presents appraisers with two challenges in highest and best use analysis:

- To determine if the economic demand for an alternative use of the property being appraised under a potential zoning change is greater than the economic demand for the real estate under the current zoning
- To provide market support for that conclusion

To manage their risk, most developers contract to buy property "subject to" rezoning approval rather than "as is." Many pending sales never close because they are subject to rezoning that could not be obtained within the developer's desired time frame or could not be obtained at all.

If appropriate for the intended use of the appraisal, a current opinion of market value may be based on the hypothetical condition that the property has already been rezoned as of the current date of value. (However, as stated earlier, some clients will not accept appraisals subject to that sort of hypothetical condition, instead requiring that the property be valued "as is" with the existing zoning and, if appropriate, reflecting any additional value due to the likelihood of a zoning change.) If the date of value is prospective, the opinion of value could be based on the extraordinary assumption that the rezoning will have occurred by the prospective date of value. A current opinion of market value that reflects the existing zoning but also reflects any premium that market participants would pay because of the likelihood of a future zoning change would be the "as is" value. This value would not be based on a hypothetical condition or extraordinary assumption relating to the zoning status.

growth. Historic ordinances and overlay districts may be so restrictive that they can significantly restrict new development.

Concerns over the long-range effects of certain land uses sometimes result in increased environmental regulation and stricter development controls. Appraisers should be familiar with environmental regulations pertaining to clean air, clean water, and wetlands, and they should be sensitive to the public's reaction to proposed development projects. When resistance from local residents and the general public (sometimes called *NIMBYism*, for "not in my backyard") occurs, it can pressure elected officials to stop or limit certain real estate developments or change the density or character of a specific plan.

Marketability analysis helps appraisers compare the maximum development potential of a site that is legally permissible with market norms. For example, legal restrictions and the size of a specific site may indicate a maximum of 100,000 square feet of building area for that site, but if buildings on sites with similar legal and physical characteristics are being developed with buildings of 60,000 to 80,000 square feet, the difference may need to be accounted for in the analysis of the maximum productivity of the site as though vacant and reconciled in the analysis of the highest and best use of the property as improved. When the market norms are more restrictive than the legal restrictions, the market norms prevail in market analysis and highest and best use analysis. For example, a local ordinance may require 4.5 parking spaces per 1,000 square feet of office space, but the developers in the market may all use 6.0 spaces per 1,000 square feet as a minimum.

Market norms can also influence a site's potential for division as a legally permissible option, i.e., the site could be used as is or subdivided. For example, the analysis of the highest and best use of a 20-acre industrial site might start with an investigation of any legal restrictions on development of the entirety or on division and development of smaller parcels.

As with zoning ordinances, if there are land use limitations inherent in any applicable codes, ordinances, and regulations, an appraiser should investigate whether there is a reasonable probability of a change relative to the subject property along with economic demand for change and any timing and cost considerations related to a potential change.

### **Physically Possible Uses of Land as Though Vacant**

A parcel of vacant land (or an improved site analyzed as though vacant) is the blank canvas on which a real estate developer paints any number of pictures. The physical possibilities of the vacant land are quickly constrained by factors such as site size, shape, frontage, availability of utilities and other support services, topography, soil composition, and other site conditions and environmental and locational factors. As a simple example, an irregularly shaped parcel can cost more to develop and, after development, may have less utility than a regularly shaped parcel of the same size. In addition, if the irregular shape affects ease of access, certain land uses might not be probable or even physically possible. For some developers of commercial real estate, ease of access (e.g., number and placement of curb cuts) is the most important site factor, but others may consider visibility to be paramount. It is also possible to have too much traffic in front of a commercial site because that may cause too many cars backing up at an automatic signal, which prevents crossover traffic from accessing

the site. For developers of industrial property, the access of the site for large trucks may be the most significant physical attribute.

The information that appraisers use to analyze the physical possibility of a land use is often collected in the property productivity analysis step of the market analysis process, which also covers the legal and locational characteristics that connect the property with sources of economic demand and set it apart from its competition. These interconnected forces shape the use potential of the property. For a parcel of land analyzed as though vacant, the uses that are both legally permissible and physically possible make up the pool of alternative uses that can be analyzed for financial feasibility.

The location of real estate determines the type of land uses with the greatest economic demand in an area. For example, a housing development for seniors might be a permissible use for a specific site but, if most residents of the market area that such a facility would serve are under 40 years old, this use is most likely not reasonably probable and would not be analyzed further for financial feasibility. Because the attributes of a location changes over time, those dynamic features, such as land use growth patterns and the direction and rate of this growth, also need to be addressed. Location analysis addresses these major questions regarding the use potential and competitive position of the property:

- Where does the subject property fit in the overall growth pattern?
- Where does the market for the subject property come from (i.e., linkages to demand)?
- How does the location of the subject property compare to the competition at the present time and in the future, and what are the future implications for the marketability of the subject property?

### **Distinguishing the Physical Use of Real Estate from the Motivations of Users**

The concept of highest and best use relates to what is done physically with real estate, and use of physical land should not be confused with the motivations of owners or users. For example, conservation and preservation are not uses of land. Rather, they are the motivations of individuals or groups for acquiring certain properties. The physical uses in these cases could generally be characterized as “leave the land vacant” or “do not change the historic improvements.” A parcel of land encumbered by a conservation easement would have legal limits on use, leaving “continue the existing use unchanged” or “development to some limited degree as agreed upon by contract” as the only legally permissible use of the land.

Similarly, “assemblage with an adjacent parcel” is not a meaningful description of a property’s highest and best use. While the process of assembling a site with other sites might make the most sense financially for the entity who would benefit from the combination of multiple parcels, assemblage is a motivation for acquiring a property, not a use of the real estate. In other words, an entity might be motivated to purchase a site so that it can be assembled with surrounding parcels to create one large parcel, for which the highest and best use might be, for example, development of a multistory residential condominium building. If the property being appraised is a single site, not a site whose use depends on assemblage with other sites, the highest and best use of the site alone is usually analyzed as it currently exists by itself. If the property being appraised consists of multiple sites as though sold in one transaction, the highest and best use analysis considers them as one large site.

Land that is held primarily for future sale, with or without an interim use, may be regarded as a speculative investment. (The concept of an interim use is discussed in Chapter 18.) In general usage, *speculation* may carry a negative implication of high risk or uncertainty, but in the language of real estate appraisal *speculation* refers to the acquisition of property motivated by the expectations of realizing a profit from a rise in price. That is, the term *speculation* describes a motivation rather than a use.

### **Financial Analysis of Alternative Uses of Land as Though Vacant**

As mentioned earlier, appraisers eliminate uses that are not legally permissible and physically possible. As shown in more detail in Chapter 18, the financial analysis of the remaining alternatives builds on the analysis of physical, legal, and locational characteristics of a property, providing the estimates of economic demand and timing that support the highest and best use conclusion.

In the analysis of financial feasibility, the alternative uses that have a positive present residual land value for current development can proceed to the next step of highest and best use analysis. Timing of use is a critical consideration. Some alternative uses might not currently have a positive land residual value but could still have a land residual value in the future that is high enough to support an investor's decision to hold the land for that future use. For example, consider a plot of land with a current residual land value for apartment use of \$6 per square foot. Currently, the area lacks economic demand to support development of a retail property at that location, but, if the land were held vacant for seven years for a future retail use, the land value in seven years would be \$20 per square foot, according to marketability analysis conducted for the property. At a discount rate of 10% considering the forecast risk and holding costs among other factors, the present value of the land as if held for future retail use is \$10.26, i.e., higher than the value of immediate development for apartment use. The possible future use for retail development might have been overlooked because of the lack of current demand for retail use, illustrating the importance of timing concerns in the development of highest and best use conclusions.

### **Maximum Productivity of Land as Though Vacant**

Of the financially feasible uses of the land as though vacant, the highest and best use is the use that produces the highest residual land value. The comparison of the values of the financially feasible uses is usually straightforward.

To determine the highest and best use of land as though vacant, for each alternative use being tested, the cost to develop the requisite improvements is deducted from the value of the property as if complete to calculate the residual land value. The use that produces the highest land value on the effective date of the appraisal is the highest and best use.

As an alternative, rates of return that reflect the associated risks of alternative uses are often used to capitalize the residual income to the land from those uses into their respective values. The rates are developed from previous research (i.e., market and marketability analysis) and reflect the rates of return that are applied to the range of alternative uses being considered in the market.

As another alternative, land sales can be used to test which alternative is maximally productive when the comparable plots of land have the same or similar highest and best use conclusions as the subject property. For example, suppose a site is currently in demand for apartment use, and demand for retail space is estimated to arise five years in the future with projected population and income growth in the area. The highest and best use of the site can be tested by applying comparable sales data. Apartment land is currently selling for \$3.50 per square foot, and retail land that is ready for development is forecast to sell for \$7.50 per square foot in five years. If the retail land is held for five years at a discount rate of 20%, the present value of the retail land is \$3.01 per square foot, which suggests that the highest and best use today is to develop apartments on the site.

### Conclusion of Highest and Best Use of Land as Though Vacant

If an appraiser concludes that a building improvement is appropriate for the highest and best use of a parcel of vacant land, the appraiser then determines and describes the type and characteristics of the ideal improvement to be constructed. The use that is considered the *ideal improvement* should meet the following criteria:

- It is supported by market and marketability analysis and the financial analysis of alternative uses.
- It takes maximum advantage of the potential market demand for the site's highest and best use.
- It conforms to current market standards and the character of the market area.

If a new improvement is considered capable of supporting the highest and best use of the land as though vacant, it presumably will have no physical deterioration or functional obsolescence. The ideal improvement identified in highest and best use analysis helps appraisers estimate the effect of certain forms of depreciation in the application of the cost approach because any differences represent inconsistencies with market demands.

An appraiser's conclusion of the ideal improvement should be as specific as the market suggests through market analysis, e.g., to the level of the number of stories or number of units built. The first step—property productivity analysis—of the six-step process of market and marketability analysis determines the market segment that the subject property could serve based on its features. The market might recognize the use of the ideal improvement of a particular site as “community retail” or as “neighborhood shopping center.” The specificity of the ideal improvement can test the reasonableness of the highest and best use conclusion and affects the comparable properties that might be analyzed in the application of the approaches to value.

### Alternative Uses of the Real Estate as Improved

The theoretical focus of highest and best use analysis is on the potential uses of the land as though vacant. In practice, however, the contributory value of the existing improvements and any possible alteration of those improvements are just as important as the land as if vacant in determining highest and best use and, by extension, in developing an opinion of the market value of the property.

The concept of highest and best use of real estate as improved pertains to the use that should be made of an improved property in light of the existing improvements and the ideal improvement described at the conclusion of the analysis of highest and best use as though vacant. In market value appraisals of improved property, appraisers consider a number of alternative uses of the existing improvements:

- Retain the existing improvements and continue the current use as the highest and best use.
- Convert, renovate, or alter the existing improvements to enhance the current use or change the use of the property to a more productive use.
- Retain the existing improvements and continue the current use as an interim use.
- Demolish the existing improvements and redevelop the site.

In the case of continuing the current use as an interim use, the ongoing use of the existing improvements would be an interim use that helps defray the cost of carrying

the property and demolition costs until all approvals have been obtained and actual construction on a new use should begin.

All four criteria of highest and best use are relevant to the analysis of the property as improved and any alternative uses considered. It is generally self-evident that the current use of a property as improved is physically possible. That is, the existence of the improvements proves that they can be built on that site. Likewise, the legal permissibility of the current use is often nearly as obvious and easy to confirm. But an appraiser needs to test whether the existing improvements contribute value, rather than simply assume that the current use is the highest and best use because the improvements are already in place. In fact, the most persuasive analysis of the highest and best use of the property as improved often first tests whether the existing improvements should be demolished and the site redeveloped to the highest and best use as though vacant, instead of starting from the assumption that the current use will continue.

Demolition of the improvements can be considered the most extreme form of modification to the current use of the property as improved. If the value of the property as improved is greater than the value of the site as though vacant less demolition costs, then the existing improvements contribute value to the property's highest and best use and should not be demolished at that time. When the improvements no longer contribute positively to value net of demolition costs, then demolition and redevelopment of the ideal improvement would be economically supportable. Many buildings are torn down and their sites left vacant or left as improved for a variety of reasons, e.g., property taxes, liabilities, or avoidance of vandalism and criticism that the unused improvements are an "eyesore." In these cases, the land is worth more as vacant than as improved. (Interim uses will be discussed more fully in Chapter 18.) If demolition is ruled out, then changes to the existing improvements—which may include a change of use—should be tested. The recognized forms of modification are

- Conversion of the property to an alternative use
- Renovation of the improvements
- Alteration of the property

For any of these options to be financially feasible, the change must add at least as much value to the property as it costs. In other words, the value after conversion, renovation, or alteration less the costs of the modification (including entrepreneurial incentive) must be greater than or equal to the value of the property as is. The costs involved in any form of modification must include an appropriate estimate of entrepreneurial incentive.

Testing the feasibility of modification is a straightforward comparison of the contributory value of the change with the cost of making the change. However, any modification of the existing improvements must still meet all four tests of highest and best use for the modification to be considered the highest and best use. The study of property productivity in the market analysis process is likely to show what changes to the existing improvements are physically possible and legally permissible.

If all the alternative uses are eliminated and the current use remains financially feasible without modification of the improvements or redevelopment of the site and retains the highest value of the alternative uses, then the current use is the highest and best use of the property as improved. Deferred maintenance of the improvements may need to be addressed in the analysis of the financial feasibility of the current use.



Repairs may need to be made to the existing improvements for the current use to achieve the best competitive position in the marketplace. The costs of curing physical deterioration or functional obsolescence, redesigning a building, or converting the existing improvements into an alternative use (including a provision for entrepreneurial incentive) should be analyzed in light of the value created in the market. The effect on value of implementing any changes is more important than simply how much the changes will cost. If the changes will not be economically feasible, the expenditures would not be made—a point that an appraiser should incorporate into the highest and best use analysis.

### **Consistent Use**

The principle of consistent use holds that land cannot be valued based on one use while improvements are valued based on another use. A site with existing improvements is valued as though vacant and available for its highest and best use. Existing improvements that do not conform with the ideal improvement may contribute some value or no value or even reduce value if the costs to remove the improvements are substantial. In the application of the cost approach, an adjustment for functional obsolescence may be needed for an improvement that is not consistent with the highest and best use as though vacant. In other words, if the improvements are not the highest and best use, any reduction or increase in value they create would be attributed to the improvements, not the land.

Consider a single-unit residence on a valuable site rezoned for commercial use. This house, if zoned for residential only, would be worth \$450,000 and the land value with residential zoning would be \$75,000. But the site is zoned for retail use, and the land value is \$500,000 with the current zoning. It is incorrect to add the land value of \$500,000 for use as a commercial site to the value of the building as a residence (\$375,000) because the residence is in the way of commercial development and would be demolished by a commercial developer.

Even though a property was developed with one use in mind, alternative uses are almost always physically possible, just not always financially feasible or maximally productive. In the analysis of the highest and best use of a property as improved, an appraiser considers the alternative uses by applying the same tests applied in the analysis of the highest and best use of the land as though vacant. The future economic performance of the existing improvements is the core concern in analyzing the alternative uses of the property as improved.



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