

Peer-Reviewed Article

The Application of Highest and Best Use Analysis

Excerpt from *The Appraisal of Real Estate*, fifteenth edition

Abstract

The highest and best use of property is essentially the reasonably probable use that results in the highest value. 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. This article presents an overview of the steps in the process of highest and best use analysis.

Traditionally, highest and best use analysis has been described in terms of four “tests.” And those tests are theoretically applied to the subject property considered from two perspectives: (a) the land as though vacant and (b) the property as improved. In practice, however, the process of highest and best use analysis is more effectively organized into eight steps that echo and amplify the process of market and marketability analysis. Figure 1 lays out the eight steps in highest and best use analysis as its own sequential process and illustrates how those steps map onto the four fundamental criteria for the analysis of highest and best use.

The essential components of highest and best use analysis are

1. A specific property's physical, legal, and locational attributes that determine use
2. The economic demand for the potential alternative uses of that property
3. Estimates of the financial rewards for each alternative use

Those first two components are generated through market and marketability analysis. The conclusion of that process provides the basis for the financial analysis of alternative uses—the third

component. That screening process then leads to reconciliation and the final conclusion of highest and best use—i.e., the maximally productive use.

At its core, highest and best use analysis is an examination of alternative uses of a property, each use having its own characteristics related to the value-influencing factors of utility, demand, effective purchasing power, and scarcity. The goal of highest and best use analysis is to determine which use produces the highest present value of the future benefits. To accomplish that, the eight steps in highest and best use analysis are used as a screening process, and alternatives are run through this screening process until the highest and best use is determined.

Each alternative use of the property should be studied in sufficient detail to allow an appraiser to make a logical, supportable decision about the alternatives in terms of use, timing (of the demand for each use), and identification of market participants. The same criteria for levels of study in market and marketability analysis apply to the eight-step process of highest and best use analysis. If the property is a small, simple property in a stable market and it is obvious that there is current demand, then the highest and best use analysis would usually be simple (i.e.,

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Figure 1 Eight Steps of the Highest and Best Use Analysis Process

Step 1. Property productivity analysis	Analyze property productivity attributes (site, legal, and location) to eliminate uses and determine most probable uses	<ul style="list-style-type: none"> • Physical possibility • Legal permissibility
Step 2. Delineate the market Step 3. Demand analysis Step 4. Supply analysis Step 5. Residual demand analysis Step 6. Subject capture analysis	Perform market studies to determine the economic demand and timing for probable alternative uses Perform marketability analysis	Data required for analysis of financial feasibility
Step 7. Financial analysis of alternative uses	Complete a financial analysis of alternative land uses to determine which use has the highest residual land value	Financial feasibility
Step 8. Highest and best use conclusions	Perform highest and best use reconciliation and draw conclusions: <ul style="list-style-type: none"> • Use • Timing • Market participants <ul style="list-style-type: none"> • Users of space • Most probable buyer type 	Maximum productivity

analogous to a Level A [inferred demand] market analysis). For example, for a single-family house in good condition in a stable market with a consistent sales history in a neighborhood with a good long-term outlook, the eight steps of the highest and best use analysis process can usually be completed in a short time, with inspection of the subject property and neighborhood and review of the zoning and MLS records of sales trends. At the other end of the scale, if a property is large, complex, or in a volatile market and if the timing of demand is an issue, then the application of the eight-step process might be detailed and extensive (i.e., like a Level C [fundamental demand] market analysis) with quantifiable support for each step.

Alternative Use Scoping

The level of study applied to alternative uses may not always be the same for the land as though vacant and for the property as improved. If the market value of the land is less than the market value of the property as improved, then a significant factor in the market value of the subject property is the future economic life of the improvements. In that case, more focus of the

highest and best use analysis would be on the property as improved. This might mean that the level of study for the land might be a Level A market analysis, while the highest and best use analysis for the property as improved might involve a Level C market analysis.

The testing of alternative uses starts with the possibility of demolishing the existing improvements and then, if the existing improvements should be retained, continues with an examination of the possibilities of conversion, renovation, or alteration of the improvements. In the first case, the value of the land as thought vacant is compared with the value of the property as improved less the cost of demolition. In the case of possible conversion, renovation, or alteration, the cost and timing of those options are compared to the potential increase in value.

Step 1. Property Productivity Analysis

The first step of the application of highest and best use analysis determines what market segment the property features are designed to serve. Appraisers usually limit the number of potential property uses to a few choices through the initial analysis of the market and of the subject proper-

ty's site, improvements, land use regulations, and location—i.e., property productivity analysis.

Often a ranking analysis of the features of the subject property places the property in a competitive position in relation to the market standard for a particular use. As an example, the location of an office property being appraised may be ranked against competitive nodes for its quality of

- Linkages
- Ease of access
- Reputation
- Visibility
- Availability of support facilities

The success of a retail center depends on different characteristics of the subject property such as

- Location
- Tenant mix
- Amenities
- The number of households in the trade area
- Proximity to new retail development
- Proximity to the path of growth (e.g., new or projected residential development)
- Household income
- Proximity to major roads

Also, the ranking of a retail center considers the characteristics of the retail node such as

- Traffic counts by each shopping center
- Complementary land uses
- The size and drawing power of the anchors
- Tenant mix and compatibility in the retail node
- The effective age and reputation of the centers in the retail node

Each of the factors relevant to a particular property type is ranked as part of the analysis of location in the property productivity analysis.

Factors relevant to the property analysis of an apartment building include

- Proximity to existing development
- Public planning/development support for apartments
- Location in path of new residential growth
- Proximity to major roads (existing or approved ease of access and visibility)
- The reputation or prestige of the area (e.g., social reputation)
- Proximity and ease of access to shopping centers (convenience and shopper goods)
- Proximity and ease of access to employment centers

- Aesthetics of natural features in the area
- Proximity to entertainment and cultural areas (theaters, parks, golf, restaurants)
- Proximity and reputation of schools in the area

The property productivity analysis delineates the alternative uses of the property that are analyzed in the next steps of highest and best use analysis. The demand for each probable use is studied through market analysis to determine the market demand and market conditions for each alternative use. The marketability analysis component of the process determines the timing of the use of the subject property such as the future start date for construction or a forecast of occupancy.

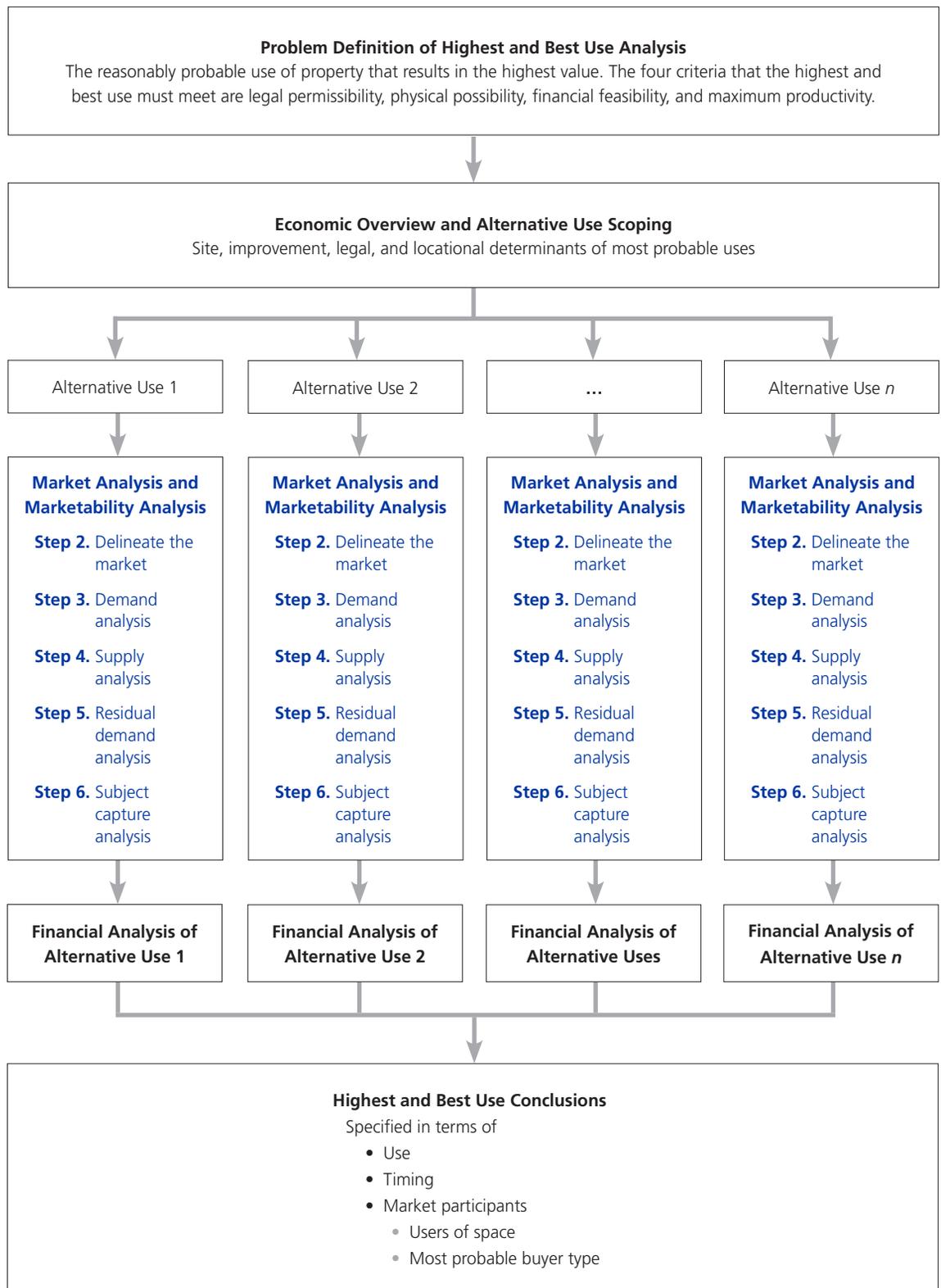
Steps 2 to 6. Market Analysis and Marketability Analysis

The central portion of highest and best use analysis is an iterative process that provides support for the forecast of economic demand for the subject property. The processes of market analysis and marketability analysis are repeated for all the reasonably probable alternative uses being considered. Specifically, the second through sixth steps are applied to each alternative use, as shown in Figure 2. In Step 1, highest and best use analysis examines the subject property's competitive position based on the property characteristics and legal and location factors. The iterative process of Steps 2–6 extends the analysis to address the amount of supply and demand for the land uses that are most probable at the site of the subject property.

In market analysis, the task of delineating the market for a particular land use involves identifying the typical users of a property that is put to a particular use. The various alternative uses often have different market areas relevant to the particular use, which the second step of highest and best use analysis addresses.

Demand analysis measures the need for a specific land use. In the context of highest and best use analysis, the study of demand for an alternative use answers the question of whether a specific alternative use is needed. The supply analysis step of highest and best use analysis determines what the competition for each alternative use is and how much competition exists.

Figure 2 The Iterative Analysis of Alternative Uses



The fifth step of highest and best use analysis is critical in determining the timing of new construction for each alternative use. That is, the comparison of supply and demand leads to an estimate of when the market would support new construction of a particular use or the future outlook of occupancy of existing properties.

The marketability analysis conclusion for each alternative use completes the iterative process at the heart of highest and best use analysis. The subject capture analysis determines the competitive position of the property's location and physical attributes, ultimately providing support for an estimate of the timing of new construction on the subject site or of the future occupancy outlook of existing improvements on the subject property over the typical market cycles in the user market. This study of economic demand sets the stage by providing data input for the next step—the financial testing of alternatives.

The subject capture potential that is estimated in highest and best use analysis must consider competitive properties, whether they are vacant sites or improved properties. There may be significant demand for a use in the subject property's market area and the subject property may indeed be suited for this particular use, but a number of other sites may be equally well suited or more appropriate.

Appraisers should also consider the competition among various uses for a specific site. For example, competition for available sites along a commercial strip development may be intense. Developers of community retail facilities, garden office space, and fast food restaurants may bid against one another, and the prices they pay for these sites will reflect the competition between buyers. However, market demand is not infinite. Even though the subject property may be physically and locationally suited for a particular use, better-located sites may satisfy the market demand for that use completely before the subject property can realize its development potential.

Step 7. Financial Testing of Highest and Best Use Alternatives

The financial testing of each alternative use provides the framework for analyzing which alternative use has the highest value. The desire for a particular use in a particular location is essential. Clues that supply and demand may not support a

particular use include vacancy throughout the market area or no new construction when land is available. The results of market analysis can lead to the potential consideration of the presence of obsolescence.

For income-producing properties, the income analysis should be supported with market and marketability analysis. The financial analysis of alternatives will often focus on which potential uses are likely to produce an income (or return) equal to or greater than the amount needed to satisfy operating expenses, financial obligations, and capital amortization of each investment. However, supply and demand are still essential considerations even if cash flow is positive, i.e., the financial analysis of alternative uses does not necessarily end with cash flow analysis.

Some economic uses of land, such as housing, may not be income-producing in the sense of a commercial property, and economic feasibility is weighed by considering prices and price trends. If the uses are not income-producing, the financial analysis will determine which uses are likely to create a value or result in a profit equal to or greater than the amount needed to develop and market the property under those uses—and of those uses, the use that produces the highest value.

The timing of alternative uses is a key consideration in highest and best use analysis because highest and best use is subject to change. In particular, the financial analysis of alternative uses is sensitive to the market acceptance of that use at the present time or at a future time. As an example, consider a ten-year-old, single-unit residence located next to a street that was just widened and where traffic increased 300% from the previous year. After the road widening, the area was rezoned from residential use to commercial use. The value of the improved residential property is \$500,000, and the land value as though vacant with commercial zoning is \$475,000. The contributory value of this ten-year-old residential structure is \$25,000. If land prices increase slightly, the building will be removed. In the application of the cost approach to value, the building would be considered almost worthless, although it is only ten years old. The residential structure is the wrong improvement for this commercial site and would pay the penalty in the form of obsolescence for misuse of the site.

Uses that are not currently financially feasible for new construction can be analyzed to forecast when they would be financially feasible at some

point in the future, i.e., when market rent rises above feasibility rent. The residual demand analysis that is part of the market analysis process provides the information needed to help forecast when a use will become financially feasible. Holding a property for future use may produce a higher present value than current development of a different use on the property.

Alternative uses that are currently financially feasible and those that are forecast to be financially feasible can be compared with discounted cash flow analysis, which is discussed in detail in Chapter 27 of *The Appraisal of Real Estate*, fifteenth edition, or with other methods such as the analysis of the present value of end-user sales to owner-developers, which is discussed later in this chapter.

The financial feasibility of a potential alternative use may not be the reason it is not currently the highest and best use. Sometimes the problem is revealed earlier in the testing process, e.g., property productivity analysis. A piece of land can be stripped of any viable economic use as a stand-alone entity by legal and physical constraints such as

- An inability to obtain a building permit
- Restrictive covenants that preclude any economic use or structure
- The presence of easements
- An inability to comply with lot area, lot dimension, or setback requirements
- No legal means of access
- Lack of accessibility (isolated location or abutting an unopened road allowance)
- Unfavorable topographical features
- Unfavorable soil conditions, including environmental contamination
- An irregular configuration
- An inability to secure essential services (water supply and sewage disposal either on site or off site)
- Development rights that were previously sold

Also, the immediate development of a financially feasible use may not be the current highest and best use because of delays in the development process such as a protracted permitting period. That sort of delay becomes part of the timing element of the highest and best use conclusion.

The demand for a location may suggest that a parcel is a prime retail corner at some point in time, but if the retail potential is some years in

the future, another use—for example, apartments—that can be developed immediately could make the land more valuable today. For an existing property subject to a lease that is near expiration, the demand for the continued use of the property or conversion to another use may be a timing issue. Timing is a central issue in the analysis because the highest and best use is the use with the highest present value.

Prices and price trends can be important indicators of economic performance. Recent sales to owner-users could indicate that the economic performance of certain uses of real estate has recently reached the level of financial feasibility, or it could indicate that the market is becoming overdeveloped. If market conditions have changed since the last sales occurred, economic performance in the current market might be affected. Sales to speculative investors are more likely to indicate a market in transition, in which case current or proposed uses are not likely to be financially feasible. Other possible market indicators of economic performance include current and historical vacancy rates, current and historical rental rates, recent construction activity, and recent space absorption.

Financial Analysis of Alternative Uses

Many different techniques can be used to help guide the final highest and best use conclusion of which alternative use produces the highest present value. All the techniques commonly used by appraisers have certain factors in common.

First, the analysis should consider the amount and timing of all cash flows until the property reaches its peak income performance. In most properties, the peak performance is not typically sustained over the long term. Rather, economic performance usually rises and falls with market cycles.

Second, the model used should take into account the appropriate risk attributed to each of the cash flow forecasts for each use considered. In general, more support for the cash flow forecast from market analysis means less risk than a forecasted cash flow based only on general data. If different alternatives have different forecast expectations, then (a) the discount rate could be adjusted for this risk, (b) the forecast could be adjusted to match the alternative use's forecast expectation, or (c) the different risk could be explicitly addressed in the reconciliation of the highest and best use.

Finally, the analytical technique applied should be able to consistently select the alternative use that will produce the highest financial reward, assuming that all alternatives have the same probability for realizing the forecasted cash flows.

The five techniques used most commonly in financial analysis are

- Land residual analysis
- Discounted cash flow analysis
- Feasibility rent analysis
- Analysis of profitability index
- Analysis of the present value of end-user sales to owner-developers

Multiple methods may be needed to analyze alternatives depending on the reliability of the techniques used.

Land Residual Analysis

For any alternative use of vacant land, the cost of construction (including an estimate of entrepreneurial coordination), the forecasted timing for the use, and the expected value of the specific property use should be known. The difference between the present value of the benefits of developing the property and the cost to develop it is the land residual, which is a primary indicator of financial feasibility. The land residual analysis provides the land value required for new construction to be economically justified. If the land residual is positive, the use is considered financially feasible, assuming that the land can be acquired for the residual amount or less.

The land residual model should be repeated for each alternative being considered. The development cost of each alternative use will probably be different and should be reflected in the financial model. The different timing expectations (e.g., start date, construction time, and lease-up time) should also be reflected in the model, which is usually a discounted cash flow analysis.

As an example, suppose that a 25,000-sq.-ft. office building is deemed a reasonably probable use of the site as though vacant. If construction costs (including leasing commissions and rent loss during lease-up) for office buildings of a similar class in the market area are \$125 per square foot and entrepreneurial incentive in the market

has consistently equaled 10% of building costs, the total cost to construct the improvements would be \$3,437,500. Similar improved properties would be expected to sell for \$150 per square foot in the current market, so the expected value of the completed and leased-up property would be \$3,750,000. The residual site value of the leased-up building would then be \$312,500:

Cost to Construct Improvements	
25,000 sq. ft. × \$125 per sq. ft. × 1.1	\$3,437,500
Sale Price of Property	
25,000 sq. ft. × \$150 per sq. ft.	\$3,750,000
Residual Site Value	
\$3,750,000 – \$3,437,500	\$312,500

The office building would be considered financially feasible if the contributory value of the land was competitive in the market.

Discounted Cash Flow (DCF) Analysis

When improvements need to be considered (such as new construction, remodeling existing buildings, or continued operation of existing buildings) in highest and best use analysis, a discounted cash flow analysis is usually required to estimate the contributory value of the real estate. DCF analysis is also an appropriate tool when rezoning costs or anticipated changes in market conditions have to be accounted for in the analysis of the present value of alternate uses. The application of discounted cash flow analysis is illustrated in detail in Chapter 27 of *The Appraisal of Real Estate*, fifteenth edition.

Feasibility Rent Analysis

Feasibility rent is the rent necessary to justify new construction. In a balanced market, feasibility rents are equal to market rents. The concept of feasibility rent helps appraisers determine the timing of development, i.e., when current rent levels in the market are expected to rise to the feasibility rent level.¹

A carefully developed comparison of market rent with feasibility rent also serves as a quantitative indicator of financial feasibility. Market

1. In addition to its use in the financial analysis of alternative uses, the analysis of feasibility rent is a powerful tool in the estimation of depreciation because the capitalized difference between feasibility rent and market rent represents total depreciation (if market rent is less than feasibility rent).

rent can be seen as an estimate of market demand (and affordability) for the current use, and feasibility rent is the rent necessary to justify new construction. Market rent is often estimated in the property productivity step of market analysis to compare locations. Feasibility rent is calculated by reversing the cash flow format used in the income capitalization approach—starting with net operating income, adding expenses, and adding the vacancy allowance to arrive at gross income.

As an example, suppose that the ideal improvement for a site is a small industrial facility that would cost \$1,750,000 to construct, including entrepreneurial incentive and all other indirect costs based on an estimate of the sale prices of comparable sites, the cost of preparing the site, and the estimated cost of building the 50,000-sq.-ft. facility. Market research supports an overall capitalization rate of 6.75%.² The required net operating income could be calculated using this information, i.e., $\$1,750,000 \times 6.75\% = \$118,125$. Feasibility rent is then calculated by (1) adding operating expenses, (2) adjusting for vacancy and collection loss, and (3) converting the potential gross income to the standard unit of comparison, in this case, feasibility rent per square foot:

Net Operating Income		
(\$1,750,000 × 6.75%)		\$118,125
Operating Expenses		
(\$2 per square foot × 50,000 square feet)	+ \$100,000	
Effective Gross Income		\$218,125
Plus Stabilized Vacancy and Collection Loss (5%)	÷ (1 – 5%)	
Potential Gross Income		\$229,605
Feasibility Rent per Square Foot		
(\$229,605/50,000)		\$4.59

The calculated feasibility rent can be compared directly to market rent to determine financial feasibility. In this case, if a marketability study indicated that industrial facilities of the same type would be expected to have a market rent of \$5 per square foot, the proposed development would be financially feasible. If the market rent were lower than the feasibility rent of \$4.59, the proposed development would not be financially feasible.

Analysis of Profitability Index

Analysis of the profitability index, which is similar in concept to the net present value of an investment, directly compares the value contribution of some action such as developing a proposed property on a particular site with the cost of that action. Analysis of the profitability index of a land use is most useful in the analysis of the financial feasibility of conversion, renovation, or alteration of an improved property, although it can be used to measure the feasibility of establishing alternative uses on vacant land. (Further explanation and examples of the use of the profitability index are covered in Chapter 27 of *The Appraisal of Real Estate*, fifteenth edition.)

Analysis of the Present Value of End-User Sales

The defining characteristic of sales of property made to “end users” is that the buyer will make the property available to the user of the space for immediate occupancy. The values of alternative uses can be discounted to compare differences in market timing and ultimately to determine which alternative provides the highest present value.

The discount rate can be adjusted for holding costs and any appreciation expected in sale prices, or the actual cost and appreciation can be accounted for in a discounted cash flow analysis. Note that any appreciation in the prices of end-user sales is not necessarily an inflation adjustment in a fundamental analysis. That is, the price appreciation could include some expected change in future buying power such as disposable income after inflation. Some appraisers use an inflation-adjusted discount rate.

Consider a two-acre commercial site on a major thoroughfare. Four uses were forecasted through marketability analysis to be in demand for the site:

- branch bank
- pharmacy
- service station
- fast food restaurant

However, the timing of the demand for each use varied, as illustrated in Table 1.

All of the forecasts of timing were judged to have equivalent reliability, and a constant discount rate of 20% was considered reasonable. The

2. If the sales market is at a critical inflection point in the market cycle, a more sustainable overall rate adjusted for the sales market cycle or a rate based on the fundamental user market for alternative investments should be used.

Table 1 Timing of Demand

Use	User Price per Sq. Ft.	Date of Most Recent Sale to End User	Estimated Mid-Range Forecast of Timing for Demand for End User
Branch bank	\$23	2 years ago	3 years from now
Fast food restaurant	\$19	3 years ago	1 year from now
Pharmacy	\$25	current	4 years from now
Convenience store	\$16	1 year ago	1 year from now

Table 2 Discounted Value

	Bank	Fast Food Restaurant	Pharmacy	Convenience Store
User price per square foot	\$23	\$19	\$25	\$16
Future timing for use (years)	3	1	4	1
PV @ 20%	\$13.31	\$15.83	\$12.06	\$13.33

land value is estimated to be stable for the next few years in the market of end users. Ultimately, the alternative that produces the highest present value is use of the site for the development of a fast food restaurant, as indicated in Table 2.

Step 8. Reconciliation and Conclusions

In the reconciliation of highest and best use analysis, the various inputs in the data analyses from earlier steps in the process are reviewed. The resulting financial analyses by various methods are also analyzed and the methods considered most reliable form the basis of the highest and best use conclusion. In addition, the results of the analysis of inferred demand are reconciled with the calculated financial analyses.

The resulting reconciliation conclusions of highest and best use for both the land as though vacant and the property as improved (or as if improved as proposed) should be presented in terms of

- Use
- Timing
- Market participants

Traditionally, appraisers have emphasized the physical use in the conclusion of highest and best

use, but all three considerations are important in identifying the highest and best use fully.

The development of those conclusions in the market analysis process is integral to highest and best use analysis, which in turn is integral to the valuation of the property. The most probable buyer is a critical conclusion used in choosing comparable sales in the sales comparison approach. The probable space user is critical in choosing comparable leases in the income capitalization approach.

In any report of a highest and best use conclusion, an appraiser should provide market evidence that leads the reader of the appraisal report to an understanding of the use and the timing (or future occupancy) for the use. The property type, size, and market conditions provide an indication of how detailed the fundamental data needed will be, which will dictate to a large extent how specific the conclusion of the highest and best use of a property should be. However, all three parts of the highest and best use conclusion are needed at some level to reliably apply the approaches to value. For example, the selection of comparable sales is based on properties with a similar highest and best use as the subject property, so that requires some basis to determine if the comparable prop-

erties have a similar use, timing for use, and market participants as the subject property.

Reporting Highest and Best Use Conclusions

In an appraisal report that includes an opinion of market value, a discussion of, or reference to, a separate marketability study (of either inferred demand or fundamental demand) may need to precede the discussion of the highest and best use determination to provide context for the highest and best use conclusions. A marketability study is particularly important in the appraisal of vacant land, of new or proposed construction, and in transitional or complex markets.

In addition, highest and best use analysis often incorporates techniques and data from the application of all three approaches to value. In many appraisal assignments, the financial analysis of alternatives and the test of maximum productivity require information that is obtained from the application and development of the approaches to value. Therefore, even though the discussion of highest and best use traditionally precedes the approaches to value in an appraisal report, the conclusion of highest and best use often can be finalized only after a preliminary analysis of alternative land uses has been performed. The conclusions of use, timing, and market participants reported in the highest and best use section of a report should be consistent with conclusions and applications in the other parts of the report.

Special Situations in Highest and Best Use Analysis

In the identification and testing of highest and best use, special considerations are required to address the following situations:

- Excess land and surplus land
- Proposed construction
- Legally nonconforming uses
- Illegal uses
- A use that is not currently the highest and best use
- Mixed uses
- Special-purpose properties

Excess Land and Surplus Land

The related but distinct concepts of surplus land and excess land were introduced in Chapter 12 of *The Appraisal of Real Estate*, fifteenth edition.

The proper treatment of unused land on an improved site can be an important consideration in highest and best use analysis. Both excess land and surplus land have a common characteristic in that they are not needed to serve or support the existing improvement. However, only excess land has the potential to be separated from the rest of the improved property and to be used at its own highest and best use. Also, the highest and best use of the excess land may or may not be the same as the highest and best use of the main parcel. In contrast, surplus land cannot be separated from the improved property and sold with an independent highest and best use.

A site with excess land may be able to support two separate highest and best uses: (1) the highest and best use of the land used to support the existing improvements and (2) the highest and best use of the excess land. Surplus land, meanwhile, is currently unused land that might at best be used for the expansion of the existing improvements, i.e., a modification of the current use, if legally permissible and financially feasible. Surplus land is sometimes used in improvement density calculations for zoning requirements, which may be a factor in deciding if that area is needed to support the existing improvements.

A variety of physical, legal, and other factors can affect whether unused land can be classified as excess land. For example, a lease that covers all of the land of an underimproved property can postpone or delay development or separate use of excess land until the lease expires.

When the appraised property includes excess land, the excess portion and the improved portion are valued separately, each based on its own highest and best use. If an appraisal assignment includes valuing an improved parcel and an accompanying parcel of excess land together as though the two were sold in one transaction, the appraiser must consider the cost of splitting the entire parcel (including entrepreneurial incentive), which may be so significant that the separation of the excess land may not be economically feasible. The sum of the values of the improved parcel and the excess land may equal the value of the whole, or an adjustment may be needed to that sum to reflect a combined sale. If two separate value conclusions are provided—one for the improved parcel and one for the excess parcel—but the parcels are not legally separated, the values are based on the hypothetical condition that the parcels are legally separated.

Proposed Construction

Analysis of the highest and best use of the land as though vacant can often involve an analysis of proposed construction. For example, consider an assignment in which the land is vacant at the time the appraisal is prepared, and the assignment calls for the appraiser to develop an opinion of market value that is either

- A current value, subject to the hypothetical condition that the proposed improvements are built as of the current date, or
- A prospective value, subject to the special or extraordinary assumption that the proposed improvements will be built as of the future date of value

In either case, an appraiser analyzes the highest and best use of the property *as if improved as proposed*. These sorts of extraordinary assumptions and hypothetical conditions are based on a conclusion developed from the appraiser's research and data, i.e., that the improvements will be completed at a certain time in the future when the market would accept that use.

The specific improvements that are proposed may or may not represent the highest and best use of the real estate if improved as proposed. The highest and best use analysis process is applied just as it is for any improved property to support an appraiser's conclusion as to which use is most desired in the market. Proposed construction may involve all completely new construction or a modification of the existing improvements, but in either case the eight-step process is applied to the proposed improvements and reported with a clear presentation of an appraiser's projection of the timing of the proposed use. Even though the improvements are not yet constructed, they may suffer value loss by obsolescence if they are not similar to the ideal improvement.

Legally Nonconforming Uses

A legally nonconforming use is a use that was lawfully established and maintained but no longer conforms to the current land use regulations of the zone in which it is located.³ Some legal nonconformities can be created by governmental action such as a partial taking in an eminent

domain proceeding. Consider a gas station property with 20,000 square feet of land, which is the minimum amount of land area required by local zoning for gas station use. If the city acquired 1,000 square feet of the land for an intersection improvement, the site would then contain 19,000 square feet and would no longer conform to the zoning requirements for site size. Other legally nonconforming use situations can be created when codes and ordinances are changed. For example, suppose a one-unit residence on a 7,500-sq.-ft. site in the core residential district of a community zoned R-1 requires at least 7,500 square feet of land area. If the city adopts a new zoning ordinance in which the minimum site size for a lot zoned R-1 is increased to 10,000 square feet, the existing property will no longer conform. In both instances, the property uses are considered legally nonconforming uses because they were caused by an action of a governmental body. Changes in building codes, which happen regularly in cities, can also make a property legally nonconforming.

For properties with legally nonconforming uses or properties with improvements that differ significantly from the ideal improvement, an appraiser should determine whether the property can continue to operate as its current use and alternatively whether applicable codes, ordinances, or private restrictions allow modification of the improvements that would bring them into conformity. This may involve analyzing the reasonable probability of a change in zoning as conducted in testing the highest and best use of the land as though vacant. Again, an appraiser should report any evidence supporting a reasonable probability that a change could be made to bring the improvements into conformity with a particular code, ordinance, or restriction. Such evidence could include trends in the market area, historical changes to codes or ordinances in the area, or a community's master plan.

Some communities also differentiate between (1) legally nonconforming uses and (2) properties that are legal land uses but do not conform to current development norms. In the former case, the use is nonconforming. In the latter, the property is still being used in accordance with the

3. The traditional term *legally nonconforming use* has many synonyms constructed with similar words, e.g., *legal nonconforming use* and *legal but nonconforming use*. However, neither the words *legal* or *legally* are necessary modifiers. In plainest terms, a use that can continue is *nonconforming*, and a use that cannot continue is *illegal*.

zoning even though the site (or the improvements) may be too small or otherwise inconsistent with development norms. The ideal improvement will meet both the legal requirements and the market norms. Most zoning ordinances have special sections that deal with nonconforming use situations, and appraisers should be familiar with them.

Zoning changes may create underimproved or overimproved properties. A one-unit residence located in an area that is subsequently zoned for commercial use may be an underimproved property. In this case, if there is demand for commercial use, then the residence may be removed so that the site can be improved to its highest and best use. On the other hand, if there is adequate current demand but there is demand forecast in the future, the residence will be considered an interim use until conversion to commercial use is financially feasible. In this case, the conclusion of highest and best use would be to leave the property devoted to its interim use until the forecast date when redevelopment is financially feasible. A legally nonconforming property can be an overimprovement when zoning changes reduce the permitted intensity of property use. For example, the site of an older apartment building with eight units in a fully built-up neighborhood might be downzoned to a less intense use. That is, if the vacant site were developed now, the new zoning restrictions would only allow six units to be built. Nonconforming uses also commonly result from changes in development standards that affect features such as landscaping, parking, setbacks, and access.

Zoning ordinances usually permit a preexisting use to continue but may prohibit expansion or major alterations of any structures that support the nonconforming use. This is especially true in the case of flood hazard rules of the federal flood insurance program. Some jurisdictions specify a time period for phasing out legally nonconforming uses. In some jurisdictions, a nonconforming use that is discontinued cannot be reestablished, whereas in other jurisdictions, a nonconforming use must be eliminated if the property suffers major damage or if the property is abandoned for a statutory period of time. In some instances, a nonconforming use can be rebuilt to the same intensity of use that it had prior to its destruction, provided it has no more impact on the market area (e.g., a detrimental effect on neighboring properties) than it did before.

A zoning variance can create a legally nonconforming use. An area variance (less commonly known as a *use variance*) may be allowed due to special circumstances applicable to a specific property, when strict application of the provisions of a development code deprives the property of privileges commonly held by other property in the vicinity that is under the same zoning. When a variance is granted, the legally nonconforming use usually can be rebuilt without taking any unusual steps, in contrast to an existing use that is legally nonconforming. Appraisers should be careful to research if a variance is only for the current owner and the current use. If the variance is issued to the current owner for that specific use and it expires when the property is transferred to a new owner, the use allowed by the variance will not be permitted for the new owner.

When valuing land with a legally nonconforming use, an appraiser should recognize that the current use may be producing more income, and thus have more value, than the property could produce with a conforming use. The legally nonconforming use may also produce more income and have a higher value than comparable properties that conform to the zoning. Therefore, when an opinion of the value of a property with a legally nonconforming use is developed in the sales comparison approach, an appraiser should consider the demand for the higher intensity of use allowed for the subject property and also consider the risks and limitations associated with the nonconformity. If the improvements could not be replaced if destroyed (for example, by fire or flood), there is the risk that the income produced by the property will cease, and this risk must be reflected in the valuation to the degree that it is acknowledged by market participants.

In the case of the eight-unit apartment building in an area downzoned to six-unit developments, for example, the capitalization or discount rates in the income capitalization approach may need to reflect any increased risk associated with the nonconforming use, specifically the risk that the improvements could not be rebuilt if destroyed. In the sales comparison approach, the subject property would be treated as an eight-unit apartment, but to reflect this risk, adjustments would need to be made to comparable properties unless they too are similarly legally nonconforming uses. An appraiser will have to determine whether sales of properties with six

units are appropriate comparable transactions in applying the sales comparison and income capitalization approaches or whether the sales should be of properties with eight units. In the cost approach, any increment in value due to the legally nonconforming use is attributed to the improvements, not to the land, if the improvements could not be rebuilt.⁴

A zoning ordinance does not control the economic demand for a property, but rather the market does. For example, a property rezoned from residential use to commercial use does not necessarily increase in value. There may still be demand for residential improvements in the market area but not for commercial improvements at this location. In this example, the zoning change would not increase the value of the land. In addition, if high economic demand is found for the current use, then the current, legally nonconforming use may be producing more income than the rezoned, conforming use would.

In some cases, a legally nonconforming use designation may affect the value of a property negatively. Appraisers must understand enough about the legal requirements affecting properties in the area to be able to identify when there are further issues to consider. For example, in many municipalities a nonconforming use cannot be rebuilt if it is completely or partially destroyed. Some lenders consider the restriction on rebuilding a risk, and lending practices or parameters for conforming and nonconforming properties may differ. As a result, some lenders require insurance against loss due to the nonconforming use, thus reducing net income to the property and therefore value.

It is often easy to recognize a legally nonconforming use that corresponds to the highest and best of the property as improved. Sometimes, however, it is not clear whether a legally nonconforming use is the highest and best use of the site as though vacant. Answering that question usually requires careful analysis of (a) the selling price or income produced by the legally nonconforming use and (b) the selling prices or income levels that would be produced by alternative uses of the land if the property were brought into conformity with existing regulations. In most cases when a legally nonconforming use is

allowed to continue for the remaining economic life of the improvements, the market will probably not distinguish between a legal use and a legally nonconforming use. But a legally nonconforming use can create a problem in the application of the cost approach, where the value of the land and the value of the improvements are summed to develop an indication of value of the property as a whole. When the land is valued as though vacant, that estimate of value can be severely diminished by the existence of zoning or land use regulations, but the market for the improved property may view the property as if the improved use were legal, i.e., without an impairment to the land value.

Illegal Uses

Sometimes a property being appraised includes improvements that were constructed without permits. Often in these cases the client will instruct the appraiser to “just ignore” the illegal portions, but this is inappropriate. If the appraiser does “ignore” the illegal improvements, the appraisal is premised on the hypothetical condition that the illegal improvements do not exist when in fact they do exist, and the hypothetical condition must be clearly disclosed in the appraisal report.

To value a property with illegal improvements in its “as is” state, the appraisal must reflect the cost to remedy the illegality—i.e., to either remove the illegal improvements or obtain legal permissibility. Obtaining legal permissibility might include upgrading the improvements so they conform to building codes and the payment of fees or fines.

Use That Is Not Currently the Highest and Best Use

The timing of alternative uses is a consideration in the conclusion of highest and best use because highest and best use is subject to change. In particular, the financial feasibility of an alternative use can be sensitive to the market acceptance of that alternative use now or at a future time. When no alternative uses are currently financially feasible, an appraiser should analyze when an alternative use will, if ever in the foreseeable future, become financially feasible and therefore become a candidate for the maximally produc-

4. If legally nonconforming uses could be rebuilt, any incremental value due to those uses would be attributed to the land. This is because legally permissible uses of the land as though vacant would include the legally nonconforming use in this case.

tive use. If the maximally productive use of a property is delayed for legal or financial reasons, then the highest and best use of the property would be to leave the property as is until that prospective use can be achieved, e.g., when land value rises to the level that modification of the current use is legally permissible, financially feasible, and maximally productive.

The current use that the property is put to until it is ready for a more valuable use has traditionally been known as an *interim use*. When it is not financially feasible on the date of value to put the property to a more valuable use, the appropriate highest and best use to be analyzed includes both the future use and the interim use. In other words, when developing a market value opinion for such a property, an appraiser must take into account the anticipated change in use in the future. The interim use may contribute to the value of the property up to the point at which it becomes feasible to change the use.

Interim use improvements may or may not contribute much, if anything, to the value of the land as though vacant. If they cannot produce gross revenues that exceed reasonable operating expenses, the improvements do not contribute to property value. Indeed, the value of the property as improved may be less than the value of the land as though vacant when demolition costs and real estate taxes are considered. However, many outmoded improvements that clearly do not resemble the ideal improvement do create an increment of value over the value of the land as though vacant. Also, the interim use may have value to the property user to the extent that the income generated by the improvements defrays the costs of carrying the property, the cost of demolishing the improvements, or both.

Uses that are not currently financially feasible must be analyzed to forecast when they would be financially feasible at some point in the future, such as when market rent reaches feasibility rent (i.e., the rent level necessary to justify new construction). The residual demand analysis that is part of the market analysis process provides the information needed to forecast when a use will become financially feasible. (This is another example of the importance of

market analysis throughout the valuation process.) Alternative uses that are currently financially feasible and those that are forecast to be financially feasible can be compared through discounted cash flow analysis.

Mixed Uses

Highest and best use often comprises more than one use for a parcel of land or an improved property. A large tract of land might be suitable for a planned unit development with a shopping center in front, condominium units around a golf course, and one-unit residential sites on the remainder of the land. Business parks often have sites for retail stores in front and warehouse or light manufacturing structures in the rear. In these cases, different portions of the tract will have different highest and best uses.

One parcel of land may serve many functions. Timberland or pastureland may also be used for hunting, recreation, and mineral exploration. Land that serves as a right of way for power lines can double as open space or a park or may be used for agricultural purposes. Public streets with railroad sidings can also be considered mixed-use land.

A single building can have a mix of uses as well. A hotel may include a restaurant, a bar, and retail shops in addition to its guest rooms. A multistory building may contain offices, apartments, and retail stores. A “single-family,” owner-occupied home may, where permitted, have an upstairs or basement apartment.

If the highest and best use of a property is for more than one use on the same parcel or in the same building, the appraiser must analyze the contributory value of each use. This testing can be accomplished by repeating the steps of marketability analysis for each use to determine the timing and economic contribution of each use and thereby be reconciled into a conclusion of the best economic mix of uses for the property.⁵

Special-purpose Properties

All properties are built for a specific use, but some properties are labeled *special-purpose properties* when the features of the improved property are appropriate for only a specific use or a lim-

5. For an example of the process of highest and best use analysis for a mixed-use property, see Stephen Fanning, *Market Analysis for Real Estate*, 2nd ed. (Chicago: Appraisal Institute, 2014), 547–552. The example illustrates a mixed-use site, but the analysis of a mixed-use building would follow similar procedures.

ited number of uses, which may be costly to modify to another use. The highest and best use of a special-purpose property as improved is probably the continuation of its current use if that use remains viable and there is sufficient market demand for that use. The highest and best use analysis would likely include some forecast of continued economic demand.

If the current use of a special-purpose property is physically, functionally, or economically obso-

lete and no alternative uses are feasible, the highest and best use of the land might be realized by demolishing the structure and selling the remains for their scrap or salvage value, if possible. This may be true even if the improvements are relatively new and they were costly to build. For example, a ten-year-old fire station would have been designed for one use, and the owner of the property is the only user of the real estate put to that use.