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VIEW THE WHOLE PICTURE

of Commercial Real Estate Cycles

Factors like market psychology affect pricing and drive markets.

MICHAEL J. ROHM, CCIM, MAI

We often read about commercial real estate trends such as industrial price appreciation or declining office pricing. But those observations typically fail to recognize that real estate market cycles are specific to submarkets and the distinct property types within those submarkets. Demand could be increasing in a suburban submarket but decreasing in an urban submarket. And in a suburban submarket, Class A office space might be in a completely different phase of the cycle relative to Class B space.

National trends rarely perfectly reflect what's happening in a given submarket. Nor do they account for the variability of consumer behavior. That's why we need to be critical of the information we consume and apply to the markets and clients we serve.

Submarkets and property types

As commercial real estate agents, our job is primarily to advise clients and solve problems regarding buying, selling or leasing property. We can be a valued member of a company's strategic operating process when we are able to provide counsel relative to where pricing and market conditions will be in the next six to 12 months based on historical trends. This could influence the timing of relocation or expansion *of*, or departure *from*, a market. Identifying a market's position in the cycle can also inform:

- Length of time a list price may be relevant
- Absorption rate for new or currently vacant supply
- Sources of future competition
- Capitalization rate that applies to current income
- Expected yield rate in a discounted cash flow analysis
- Expected rent growth or decline during holding period

Power of the consumer mindset

Many external factors influence property value, including interest rates, overbuilding or underbuilding, tax law changes, construction cost changes, population shifts, job creation or loss in a local or regional economy, changes in effective buying power, and market participant psychology.

Market psychology arguably affects commercial pricing more than the other factors, essentially driving markets through the four phases of the cycle: recovery, expansion, hypersupply, and recession *(see page 18)*. Unlike investors in bonds and stocks, however, some commercial property owners prefer to force appreciation through their operating expertise. Therefore, an argument can be made that market psychology influences value-add investors less, because they are always in the market searching for deals.

Nevertheless, buyers' and sellers' perception of the market, whether rational or irrational, will influence their decision-making processes. Trends reported by the national media exert the most influence on that perception, even though the reports may have little or no relevance to the property type or submarket.

Physical and capital markets

Two markets influence the cycle: the physical market and the capital market.

1. The physical market analysis answers the question *How much demand is there for space among users?*
2. The capital market analysis answers the question *How much demand is there for investment properties among investors?*

Factors that affect the physical market are changes in employment, population growth and effective buying power. The physical market is defined by the interaction between users (demand for space) and developers and owners (supply of space) in an individual market. Except for residential property types, the physical market is influenced by demand among businesses. An individual business's space requirement doesn't always align with the overall market trend for that property type in that submarket. For instance, the office sector may be overbuilt in a submarket in which multiple companies are breaking ground on an office development during a recessionary or recovery period when building is not financially feasible.

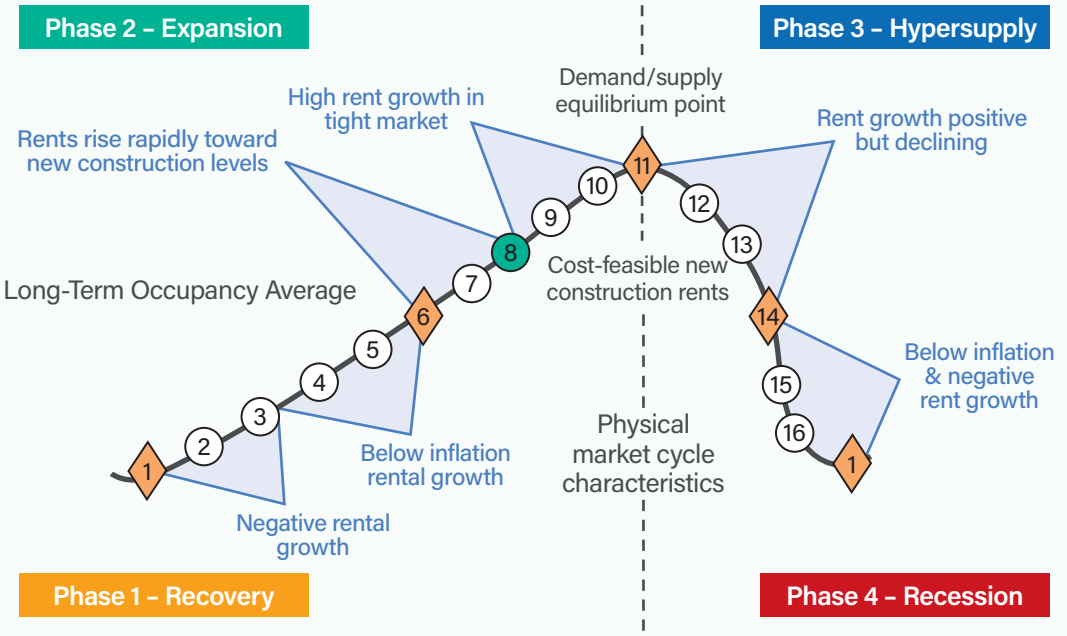
For most commercial real estate asset classes, the physical market is incredibly inefficient, as a lack of transactional data precludes the analyst from determining the state of the market cycle in real time—a condition known as *inefficient price discovery*. Simply put, with most commercial real estate property types, there are typically insufficient sales of a particular property type in a given submarket during a short period of time to substantiate how pricing for the property type is trending. Contrast that with market pricing in the residential market cycle and the stock market; both exemplify *efficient price discovery*, which is based on plentiful transactions and timely data.

Furthermore, shifts in commercial real estate pricing generally occur over a long time, because buyers and prospective tenants are accustomed to benchmark values or metrics in a given submarket. These benchmarks are reimagined over time, taking into account outlier transactions that we retroactively understand as the beginning of market shifts. Only in hindsight can we recognize that these once-outlier transactions were the start of a larger market trend.

In the capital market, vehicles such as bonds, stocks, mutual funds, venture debt and hedge funds compete with real estate investment. Real estate uniquely benefits from depreciation write-off and is uniquely diversified in that the return *of* and *on* capital can come from

4 Phases of a Real Estate Cycle

Professor Glenn Mueller of the University of Denver's Burns School of Real Estate produces a quarterly forecast that looks at real estate through the lens of cycles.



SOURCE: MUELLER, REAL ESTATE FINANCE, 1996

increasing net operating income in the physical market or price appreciation in the capital market. For these reasons, many investors allocate a portion of their holdings to real estate.

The essential role of buyer confidence

Ultimately, three factors motivate many commercial real estate transactions:

1. Personal or collective investment criteria
2. Tax implications
3. Individual space requirements

These factors are specific to each market participant making a purchase or sale decision. Individual transactions are defined as *investment value,* a concept distinct from *market value,* which is what appraisers analyze in most circumstances. In the realm of commercial real estate, *market value* can be loosely defined as a range of potential sale prices evidenced by at least two similar transactions. These transactions are sometimes few and far between, and their buyers may be motivated by different factors. In this way, pricing is more of a reaction to consumer dependence as a result of individual space or investment needs at a specific time rather than robust data that supports a list or sale price. A more appropriate way to analyze commercial real estate markets may be to characterize patterns as "behavioral cycles" rather than "market cycles."

Whether you're analyzing the physical or the capital market, remember that pricing for most commercial real estate assets is relatively inconsistent, depending on the specific buyer's or seller's motivation. Therefore, consider the factor of consumer confidence. If enough people believe property values for a certain property type will increase or decline by 20%, the trend is likely to occur, regardless of whether the perception is rational. Real estate markets are driven by emotion and the fear of missing out. When the economy is good, optimism will influence negotiations to result in higher sale prices. In poor or volatile economic times, pessimism will influence negotiations to result in lower sale prices. If fundamental analysis reveals the anticipated pricing expectations are irrational, real estate agents can advise clients accordingly to capitalize on irrational market behavior.

Differences of opinion make the market, and perceived value is sometimes more important than the fundamental relationship between supply and demand. As real estate agents, we are trying to balance *historical* pricing trends with *current* consumer behavior, which is often unpredictable and always uniquely motivated. Nevertheless, we need to consider the whole picture to provide sound counsel—even in the face of chaotic markets. ■

Michael J. Rohm, CCIM, MAI, is owner and president of Commonwealth Commercial Appraisal Group and director of valuation advisory for Landmark Commercial Realty, both based in Camp Hill, Pa.

INCREASING INTEREST
The multifamily sector continues to strengthen, with demand returning to gateway cities as newly popular destinations continue to attract renters.

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MOB MENTALITY
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SUMMER 2022

REAL ESTATE

Mixed-Use Building Boom

Finding the right formula for mixed-use projects can mean the difference between success and failure.

The Official Magazine of CCIM Institute

By Michael J. Rohm, CCIM, MAI

UNDERSTANDING LAND VALUE

Residual land analysis is an ideal way to calculate land value based on building area, cost estimates, and development risk.

Residual land analysis is a method for determining the value of development land and is calculated by subtracting all costs associated with development from the total value of a hypothetically complete development, including profit but excluding the cost of the land. The amount left over is the residual land value — or the amount the developer can pay for the land given the assumed value of the "as complete" development, the assumed project costs, and the developer's desired profit.

In its simplest form, residual land valuation follows this formula:

"As Complete" Value
– Cost of Development
Land Value

In other words, the land residual analysis answers the question: "What can I pay for land in order to maintain project feasibility?"

Although our attention is primarily on commercial real estate, the most understandable application of the land residual formula is with residential lots in a tract subdivision, because of the relatively small variations in the completed home values. This consistency translates into more credible "as complete" value estimates. The residual land valuation will always begin with the "as complete" value of a proposed development alternative. For instance, in the case of a tract development, a custom homebuilder will offer a buyer seemingly endless upgrades. Not all upgrades will be financially feasible. Some will be, but most will not, as the upgrades — and more importantly the combination of the upgrades — will not perfectly reflect typical market desires. These upgrades often reflect personal tastes and wants, which are rarely consistent with the typical market participant and may not always optimize the property's resale value.

Upgrades and alternatives for custom homes are not always limited to interior modifications; they can include differences in size and exterior building materials. For our discussion, we will focus on interior alternatives to show the concept of a residual land analysis. The table (on pg. 15) shows a land residual analysis based on three development alternatives.

Alternative 1: This option is a 2,500-sf single-family home with four bedrooms and three bathrooms with carpet throughout (with the exception of the kitchen and bathrooms). This home costs $550,275 to develop and will be worth $600,000 when complete. The analysis translates into a residual land value of $49,725 ($600,000 - $550,275) for an approvable raw lot.

Alternative 2: This option is the same as Alternative 1, only with hardwood floors throughout (except for the kitchen and bathrooms). This home costs $569,250 to develop and will be worth $625,000 when complete. The analysis translates into a residual land value of $55,750 ($625,000 - $569,250) for an approvable raw lot.

Alternative 3: This option is a 2,500-sf single-family home with four bedrooms and 2.5 bathrooms with hardwood floors throughout (except for the kitchen and bathrooms). This home costs $531,300 to develop and will be worth $575,000 when complete. The analysis translates into a residual land value of $43,700 ($575,000 - $531,300) for an approvable raw lot.

As is inferred via the analysis, hardwood floors cost more than carpet and bathrooms cost more than common areas. Bathrooms and hardwood floors also contribute more value to the property, all else being equal.

Based on the residual land analysis, a four-bedroom, three-bathroom home with hardwood floors throughout (Alternative 2) is the highest and best use for the vacant site because it produces the highest residual land value. Put another way, this is the development alternative that returns the most value to the land.

One weakness in the land residual approach is the sensitivity of the analysis. This approach is limited as the value and costs are dynamic, which will be reflected over the course of the development rather than at a single point. For example, rising labor and material costs along with unforeseen expenses associated with site infrastructure could increase the final development costs, which in turn negatively impact the residual land value. This approach to analysis also does not explicitly consider holding costs and time value of money, so it is important to consider recent land sales to support the conclusion.

The weakness in relying exclusively on comparable land sales is that buyers do not always make land purchase decisions based on the real estate-related financial feasibility of proposed improvements — especially proposed build-to-suit improvements for owner-occupants or partial owner-occupants. From a commercial development perspective, owner-user

Analysis of Development Alternatives for a Single-Family Home

	Alternative 1	Alternative 2	Alternative 3
Site Acres	0.5	0.5	0.5
Beds/Baths	4 beds/3 baths	4 beds/3 baths	4 beds/2.5 baths
Special Features	Carpet	Hardwood	Hardwood
Estimated Approvable Building sf	2,500	2,500	2,500
1. Value of Brand New Construction*	$600,000	$625,000	$575,000
Hard Cost (per sf)	$145	$150	$140
Hard Cost ($ per sf x building sf)	$362,500	$375,000	$350,000
Soft Cost (10% of Hard Cost)	36,250	$37,500	$35,000
Incentive (20% of Hard and Soft Costs)	$79,750	$82,500	$77,000
Replacement Cost, New (RCN)	$478,500	$495,000	$462,000
Site Improvements (10% of RCN)**	$47,850	$49,500	$46,200
Site Infrastructure (5% of RCN)	$23,925	$24,750	$23,100
2. Total Construction Costs	$550,275	$569,250	$531,300
Residual Raw Land Value (1 - 2)	**$49,725**	**$55,750**	**$43,700**
Residual Raw Land Value ($ per sf)	$19.89	$22.30	$17.48
Residual Raw Land Value ($ per acre)	$99,450	$111,500	$87,400

**Estimated costs **Site infrastructure refers to physical site improvements to the land that are not depreciable (like grading, storm basins, and utility extension), while site improvements refer to depreciable components (like sidewalks, driveways, and landscaping).*

decisions are often based on enhancements to business/brand value as a result of relocating, renovating, or ground-up developing in a visible or accessible location. These development decisions rarely result in real estate financial feasibility due to the location and development criteria being specific to each user. In other words, the project may be financially feasible, holistically, but it is not financially feasible from the real estate value perspective alone. This is a concept known as "transferred value," which contends that a development may be financially feasible if one considers the enhancement to business/brand value as well (i.e. not all of the project value is derived from real estate). In this way, owner-users who develop land may employ a land residual analysis based on a combination of 1) the value of the real estate when complete, and 2) the increase in business value from having a better location and newer buildings to attract clients, thus resulting in a willingness to pay an amount for land that rarely pencils when viewed strictly from a real estate financial feasibility perspective.

Another weakness in utilizing the land sales comparison approach exclusively is that without a site survey or engineer analysis of development potential based on zoning and setback requirements, the differences in development density between sites may significantly deviate, making any comparison less credible. In short, the residual analysis is an ideal analysis if the approvable building area, estimated cost to construct, and development risk are credibly input.

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RIGHT OF WAY MAGAZINE

The Voice of the Right of Way Profession

THE 68TH ANNUAL INTERNATIONAL EDUCATION CONFERENCE

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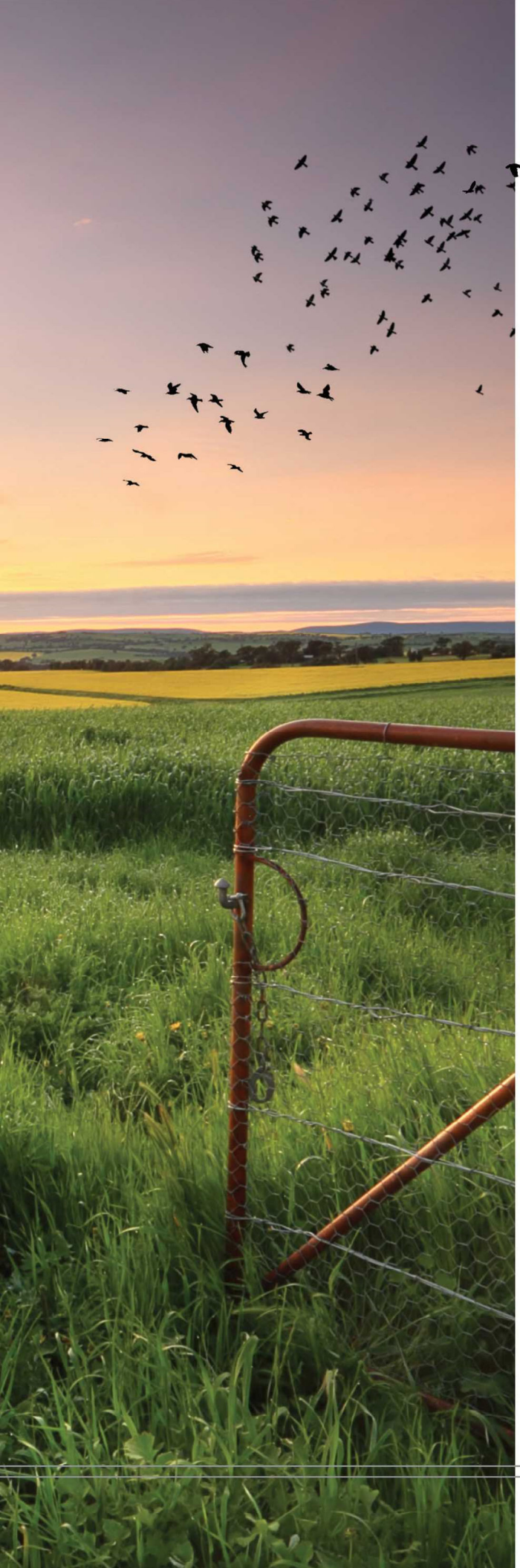
WHAT DOES LAND VALUE MEAN TO YOU?

Why language matters in real estate

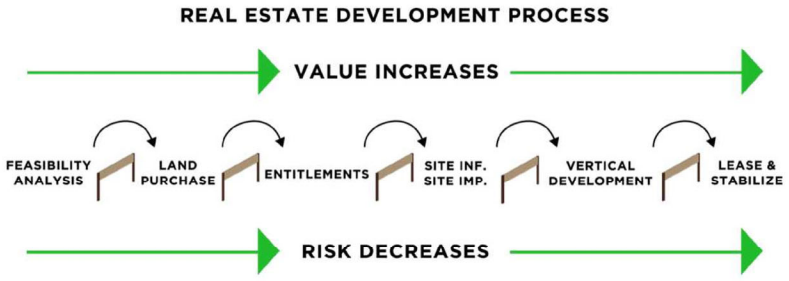
BY MICHAEL J. ROHM, MAI, CCIM, R/W-AC
contributions by Brendan Wewer



In discussions with colleagues, industry professionals and developers, I'm continuously reminded that "land value" can represent different things to different parties. When tasked with determining land value, we must recognize that land has phases of entitlement and improvement which influence value.

It is important to identify which condition of land you are appraising for your assignment: raw land, approved land or approved and improved land. In many cases, there are multiple physically possible and legally permissible development options for a given parcel of land. Are the approvals and site improvements for your subject property, if any, consistent with your highest and best use conclusion? Although difficult to uncover in many circumstances, we must be especially diligent to consider the physical and non-physical contributors (or detractors) of value when appraising this incredibly complex property type — a property type valued in every right of way appraisal.

It should be noted that land is just one component of the overall development flowchart. Although there are many subphases within each broader phase, the general real estate development flowchart is as follows:



It should be understood that there are varying levels of "land value" depending on entitlements [1], site improvements, and site infrastructure. Land entitlement, site infrastructure, and site improvements are development "hurdles" of their own; it is important to recognize that risk decreases as each phase of development is cleared. As risk decreases, value typically increases.

Many real estate professionals generically and incorrectly utilize the phrase "vacant land" to describe land in any of its three differing conditions:

1. **Raw Land —** not approved for development or improved with utilities or other infrastructure necessary for vertical development. This is the least valuable condition of land in the development process.

   a. The value of raw land varies widely from developer to developer based on experience and risk tolerance.

   b. Likelihood of rezoning or increasing development density is factored into a developer's preferred acquisition price of raw land — each of which can be difficult to credibly support.

2. **Approved (Entitled) Land —** approved land is otherwise known as entitled land. Approvals are for a specific use. "Approvals" refer to the governing municipality's interpretation of compliance for proposed development's use, density, conformance and safety and access from public roadways, among other considerations. If a project meets the standards of the zoning code, it is often approved. This condition of land is approved for development but not improved with site infrastructure/site improvements necessary for vertical development.

   a. Municipalities (zoning hearing board, planning commission, board of supervisors) determine whether to approve a given project based on the prospective development's conformance to the zoning code and potential benefit to the community.

   b. Soft costs to entitle include: township zoning approval fees, legal fees, engineering fees (site plans), architect fees (building plans) and interim real estate taxes and insurance.

   c. Approvals/entitlements are often granted for a specific use which is not always consistent with the highest and best use. For example, if a piece of land is entitled for a single-family home, but the highest and best use is for development of a retail building, the entitlements for single-family residence may not actually enhance the site value whatsoever. In other words, an entitlement not consistent with highest and best use may not be desirable (valuable) to the market.

   d. For raw land to become approved land, a property owner must undertake risk and incur soft costs during the entitlement process. For example, there is risk that a large residentially zoned piece of raw land with a concept plan will have significantly less lot yield [2] than what will ultimately be approved by the municipality. Therefore, all else being equal, the value of a parcel that is approved for a subdivision (with known lot yield) is often times significantly more valuable than the same parcel that is not yet approved. Theoretically, the difference in value between raw and entitled land is comprised of some combination of entrepreneurial incentive and the anticipated soft costs incurred for entitlement, which can vary based on the proposed development and developer.

3. **Approved and Improved Land — otherwise known as pad ready in commercial real estate. This condition is approved for development and improved with all necessary site improvements to break ground on vertical development.

   For entitled land to become "pad ready," a property owner must undertake risk and incur site infrastructure and site improvement costs to prepare the site for vertical development.

   "Pad ready" may mean different things to different people; however, the components listed below are typically the physical characteristics of interest for an entitled and improved site.

   a. Site Infrastructure typically comes first. Hard costs include site grading, retaining walls, extending utility lines, stormwater management

   b. Site Improvements typically comes next. Costs include entry/access roads, landscaping, sidewalks, curbing, parking lot, lighting, fencing

   c. Given the number of line-item costs in this phase of development, it is important to know what site infrastructure and site improvements were in place at the time of sale, if utilizing the site as a comparable sale.

   d. Probably the most important reason as to why entitled and improved land is the most valuable of the three conditions is that timing is a more predictable variable. A developer or future owner occupant knows that they can break ground immediately, and they can make alternative investment decisions accordingly. Most investment decisions and associated risk are determined based on opportunity cost which is much more of a known variable when land is entitled and improved for vertical construction.

In conclusion, it is my opinion that we as real estate professionals need to change the way we discuss "land value":

- As appraisers, we need to get more specific when asking brokers or buyers questions about a land transfer to utilize as a comparable sale. Almost no land comparable sale will be in the same phase of development as the subject property — related to required site infrastructure, required site improvements or entitlement risk. This must be quantified or qualified to produce a reliable comparison to any given subject property.

- As brokers, we need to get more specific when asking buyers, sellers and municipalities what their criteria are for development. This will better inform how to quantify projected risk and cost prior to acquisition or breaking ground.

- As owners, we need to get more specific when comparing our sites to "comparable" sites that sold. As the article relays, there are seemingly infinite steps in land development and no two sites are ever identical with regard to stage of entitlement or necessary site work (on- or off-site). Ultimately, it is difficult to utilize comparable sales when underwriting land value due to elements specific to any given subject site. ✪

[1] Entitlements are legal rights conveyed by approvals from government entities to develop a property for a certain use, intensity, building type, and orientation on a site. Entitlements can be a major factor in the ultimate use, viability, and value of land.

[2] "Yield" in this context refers to the number of lots that the development will be approved for. Although some developers are extremely accurate with their predictions of what a raw piece of land can yield, it's impossible to know the lot yield until final land development plans are approved and recorded. Among many other examples of development density, yield can also refer to the amount of square feet that is able to be developed on a proposed commercial or industrial site as well.

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What's My Land Worth?

A dive into the land residual model

WRITTEN BY MICHAEL J. ROHM, MAI, CCIM

Residual land analysis is a method for calculating the value of development land and is done by subtracting all costs associated with development from the total value of a hypothetically complete development including profit but excluding the cost of the land. The amount left over is the residual land value — or the amount the developer is able to pay for the land given the assumed value of the "as complete" development, the assumed project costs, and the developer's desired profit.

In its simplest form, residual land valuation follows the below formula:

AS COMPLETE VALUE — COST OF DEVELOPMENT = LAND VALUE

In other words, the land residual analysis answers the question: "What can I pay for land in order to maintain project feasibility?" It is important to note that this calculation is relevant and applicable in all types of project feasibility analyses (conversion, rehabilitation, renovation), not only land valuation.

The most understandable application of the land residual technique is with residential lots in a tract subdivision. This is due to the relatively small variations in completed home values in a developing subdivision, translating into more credible "as complete" value estimates. The residual land analysis will always begin with the "as complete" value of a proposed development alternative. For instance, in the case of a tract development, a custom homebuilder will offer a buyer seemingly endless upgrade options. Not all of these upgrade options will be financially feasible. Some will be, but most will not, as the upgrades — and more importantly, the combination of the upgrades — will not perfectly reflect

typical market desires. In essence, the combination of upgrades stems from personal preferences which are rarely consistent with typical market activity. In these cases, cost exceeds value added — a concept known as superadequacy.

Upgrades and alternatives for custom homes are not always limited to interior modifications; they can often include size and exterior building material modifications. For our discussion, we will focus on interior alternatives to communicate the concept of a residual land analysis. The land residual analysis based on three development alternatives is summarized below:

Analysis of Development Alternatives

	Alternative 1	Alternative 2	Alternative 3
Site Acres	0.50	0.50	0.50
Property Type	Single-family home	Single-family home	Single-family home
Beds/Baths	4 bed/3 bath	4 bed/3 bath	4 bed/2.5 bath
Special Features	Carpet throughout	Hardwood throughout	Hardwood throughout
Estimated Approvable Building Sq. Ft.	2,500	2,500	2,500
*1. Value of Brand New Construction**	*$600,000*	*$625,000*	*$575,000*
Estimated Construction Costs, New**			
Hard Cost PSF	$145.00	$150.00	$140.00
Estimated Approvable Building Sq. Ft.	2,500	2,500	2,500
Hard Cost ($ PSF x Bldg SF)	$362,500	$375,000	$350,000
Soft Cost @ 10% of Hard Cost	$36,250	$37,500	$35,000
Incentive @ 20% of H&S	$79,750	$82,500	$77,000
Replacement Cost, New	$478,500	$495,000	$462,000
Site Improvements @ 10% of RCN	$47,850	$49,500	$46,200
Site Infrastructure @ 5% of RCN	$23,925	$24,750	$23,100
2. Total Construction Costs	*$550,275*	*$569,250*	*$531,300*
Residual Raw Land Value (1 - 2)	**$49,725**	**$55,750**	**$43,700**
Residual Raw Land Value ($/FAR)	$19.89	$22.30	$17.48
Residual Raw Land Value ($/Acre)	$99,450	$111,500	$87,400

*Based on comparable sales or other market evidence
**Based on construction cost comparables

Hard Costs include all labor and materials required for construction. In this case, vertical hard costs (building material and labor) and horizontal hard costs (site development material and labor) are itemized separately.

Soft Costs include architectural, planning and engineering fees. They also may include legal fees, permits, and taxes, property and construction insurance. Construction loan application fees/origination fees, interest payments and other related financing fees. Entrepreneurial incentive is the minimum amount of profit necessary to entice a developer to take on the time, effort and risk of a new development.

Site improvements are physical site improvements to the land that are depreciable components. Examples include sidewalks, driveways, curbing and landscaping.

Site infrastructure are physical site improvements to the land that are not depreciable. Examples include grading, storm basins, water & sewer line extension and connection and electrical line extension and connection.

Alternative 1: 2,500-square foot single-family home with 4 bedrooms and 3 bathrooms with carpet throughout (with exception to kitchen and bathrooms). This home will be worth **$600,000** when complete and costs **$550,275** to develop — inclusive of hard costs, soft costs, entrepreneurial incentive, site improvements, and site infrastructure. The analysis translates into a residual land value of **$49,725** ($600,000 to $550,275) for an *approvable* raw[1] lot.

Alternative 2: 2,500-square foot single-family home with 4 bedrooms and 3 bathrooms with hardwood throughout (with exception to kitchen and bathrooms). This home will be worth **$625,000** when complete and costs **$569,250** to develop — inclusive of hard costs, soft costs, entrepreneurial incentive, site improvements, and site infrastructure. The analysis translates into a residual land value of **$55,750** ($625,000 to $569,250) for an *approvable* raw lot.

Alternative 3: 2,500-square foot single-family home with 4 bedrooms and 2 ½ bathrooms with hardwood throughout (with exception to kitchen and bathrooms). This home will be worth **$575,000** when complete and costs **$531,300** to develop — inclusive of hard costs, soft costs, entrepreneurial incentive, site improvements and site infrastructure. The analysis translates into a residual land value of **$43,700** ($575,000 to $531,300) for an *approvable* raw lot.

As is inferred via the analysis, hardwood costs more than carpet and bathrooms cost more than common areas. Bathrooms and hardwood also contribute more value to the property, all else being equal.

Based on the residual land analysis, a 4-bedroom, 3-bathroom home with hardwood throughout (Alternative 2) is the highest and best use for the vacant site because it produces the highest residual land value. Put another way, this is the development alternative that returns the most value to the land.

One weakness in the land residual approach is the sensitivity of the analysis. Limitations to this approach primarily include that value and costs are dynamic — which will change during course of development rather than a single period of time. For example, rising labor and material costs along with unforeseen expenses associated with site infrastructure could increase the final development costs, which in turn negatively impact the residual land value. This approach also does not explicitly consider holding costs[2] and time value of money[3]; therefore, it is important to consider land sales to support the conclusion.

In my experience, right of way appraisal — similar to appraisal for most purposes — place a heavy emphasis on the comparable land sales approach to determine land value. This is largely considered the most reliable approach on the basis of credibility. That is, within the land residual analysis, approvable building area, estimated cost to construct and overall development risk are difficult to credibly project with a raw piece of land. Land acquisitions are often use based rather than market based. That is, real estate decisions made by owner users are often influenced by external factors that are not motivated by real estate financial feasibility, thus resulting in a wide range of potential land sale prices.

Despite weaknesses inherent in residual land analysis, we should acknowledge that valuing land on the basis on comparable sales has substantial weaknesses as well. In the absence of a site survey to locate easements and adverses, or an engineer analysis of development potential based on zoning requirements, differences in development density between sites may significantly deviate, thus reducing the credibility of comparison between sites.

Ultimately, land receives value based on what you can build on it. This is difficult to assert via either approach but more directly addressed in the land residual analysis. Land residual analysis is also known as the developer's approach and right of way appraisers would be wise to familiarize themselves with the process as a check for reasonableness against alternate valuation methodologies for development land. ✪

[1] In land development, the term "raw" refers to land that is not approved for development and does not have site improvements or site infrastructure — specifically utilities hooked up and available.

[2] Holding costs can include taxes, insurance, mortgage principal and interest, among others.

[3] The time value of money (TVM) is the concept that a sum of money is worth more now than the same sum will be at a future date due to its earnings potential in the interim i.e., you can invest the future value of the property at a safe rate while the building is being constructed.

Michael J. Rohm, MAI, CCIM, R/W-AC, is a fee appraiser and real estate agent working throughout Pennsylvania. He is president and owner of Commonwealth Commercial Appraisal Group and is director of valuation advisory and senior associate with Landmark Commercial Realty.