

Subdivision Development: Risk, Profit, and Developer Surveys

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abstract

This research paper addresses some of the critical aspects of subdivision development that have not been fully explored by the appraisal profession. Subdivision is a dynamic and complex process, and carries many risks, both anticipated and unanticipated. The risks associated with subdivision development, which have an impact on the expectation of developer's profit, are often understated or not fully accounted for within the valuation process. Developers often employ land contracts as an effective means of reducing subdivision risk and enhancing the potential for profit.

There are some communities across North America in which it is relatively easy to achieve draft or preliminary subdivision plan approval, but which carry onerous and costly conditions for final subdivision approval. Land carried to the subdivision draft-approval stage will often remain dormant for years until the developer is reasonably sure that the proposed subdivision (concept plan) will be financially successful. But with the passage of time, the concept plan may have to be revised to reflect changes in demand for new housing.

In the subdivision development approvals process, draft plan approval ("official unofficial approval") signifies no more than municipal or regional acknowledgement that a developer's concept plan of subdivision is in compliance with established planning criteria. Final subdivision approval remains conditional on meeting a number of imposed preconditions.

In some jurisdictions, draft plan approval allows builders to commence a house-marketing campaign. Draft plan approval, however, does not speak to a developer's ability to physically or financially achieve the preconditions of final subdivision approval. Obstacles or hurdles to final subdivision approval that are outside of the control or jurisdiction of the approving authority, but critical to bringing a proposed subdivision to fruition and financially successful completion, might not be readily overcome by the developer.

A prudent developer will fulfill the conditions of draft plan approval and enter into a subdivision agreement with the approving authority only when (1) sufficient demand for new housing at appropriate price levels exists; (2) conditional lot presales have been negotiated;¹ (3) all easement and landowners' cost share agreements have been finalized; (4) development costs have been finalized; and (5) a letter of credit (performance bond) and construction financing have been secured.

Premature registration of a plan of subdivision could lead to significant capital expenditures and holding costs, including financing charges and increased realty taxes, and may undermine the financial feasibility of the proposed subdivision. Sub-

1. If the developer also is a house builder, this requirement would not apply.

division agreements typically require the developer to commence construction within a specific time frame, with the expected costs of construction backed by a letter of credit or other means of collateral. Lot levies or development charges must be paid to the municipality and region by the developer either when the plan of subdivision is registered or upon issuance of a building permit for the individual finished lots.²

Sometimes it may not be possible to delay development of a subdivision for reasons unrelated to the risk of financial feasibility or marketability. For example, where reserve sewage capacity is only allocated upon execution of a subdivision agreement on a first-come, first-served basis, any delay in securing final subdivision approval carries the risk that available capacity would be allocated to other proposed subdivisions. Also, failure to complete the conditions of final subdivision approval within prescribed statutory time limits may lead to a complete disentitlement of pending development rights and imposition of more stringent development restrictions.

Subdivision Risk

In subdivision analysis, understanding risk is crucial. The amount of risk varies at different stages in the subdivision process. Land in a raw state, unzoned to permit urbanization, carries the highest level of overall development risk and would be of little interest to a bona fide developer. Subdivision development can only proceed with planning approvals in place accompanied by an executed subdivision agreement; this is a critical factor considered by prospective developer-purchasers of raw land.

Land contracts play an important role in minimizing risk and benefit both the landowner (vender) and the developer/builder (purchaser). Developer/builders may apply the following strategies for tying up land that has subdivision potential:

The landowner must see clearly that the price he or she ultimately receives for the parcel will be based not on current market values but on a future yield the builder can deliver...A part of this step involves letting the landowner know that to realize the highest potential price for the property, he or she must wait until the builder receives some certainty that the project will be approved. In return, the landowner

enters into one of a number of legal arrangements to get the ball rolling. The most commonly used legal agreements include:

- straightforward purchase contracts with time lines for approvals backed by escape clauses underpinning the when and how a parcel eventually will be sold to the builder.
- a simple right of first refusal that may be the precursor to a purchase contract with all timing issues spelled out.
- an option agreement might give the builder all the confidence he or she needs to invest time into the property to seek entitlements.³

Timing is an important consideration and is subject to local peculiarities.

Local entitlement realities dictate much of the timing spelled out in any agreement that will result in land acquisition for development. Getting a parcel rezoned and putting an approved map in place, with densities specified, generally requires a year to 18 months in most places. But this time line can run much longer in states such as California and New Jersey where development bureaucracies tend to draw out approvals over many years. A point stressed continually by builders who successfully control land without owning it is the importance of entering only agreements that allow enough time for entitlements to be won before land must be taken down.⁴

During 1972, Goldberg⁵ used a detailed questionnaire to survey 63 residential developers in the Vancouver region of British Columbia. At that time, the region had a population of roughly 1.1 million people and 350,000 housing units. Overcoming the hurdles associated with unzoned land was cited as the most critical component in the development process.

Proper zoning appears as the most important element, giving substance to recent claims by many developers that time and effort involved in getting land rezoned is not worth the expense...[N]early two-thirds (65.1%) of the respondents used options for land purchases with approximately half of the options (42.9%) running for less than 6 months, and nearly three-fourths (74.6%) of the developers included some or all of the cost of the option in a higher than market option purchase price... Developers in the region neither hold sizable inventories nor acquire land very much in advance of actual development.⁶

2. Subdivision requirements vary from jurisdiction to jurisdiction, and are highly dependent upon the ordinances, policies, and procedures of the jurisdiction in which the property is located.

3. "How to Control Land Without Owning It," *Professional Builder* 68, no.8 (August 1, 2003): 50-57, 54.

4. *Ibid.*, 56.

5. Michael A. Goldberg, "Residential Developer Behavior: Some Empirical Findings," *Appraisal Institute Magazine* (Winter 1975): 11-14.

6. *Ibid.*, 12.

At the time of Goldberg's 1972 survey of residential developers, the subdivision approvals process was less onerous and time consuming than today. There was not the heightened awareness of environmental issues, such as pollution and soil contamination, that came to the forefront as major development risks during the 1980s. These concerns have brought about the necessity for environmental audits as a regulatory requirement. In addition, smart-growth concepts that began being adopted by communities throughout North America during the 1990s have enhanced the regulatory framework of the development process.

The types of subdivision risk that can be encountered are too broad and diverse to enumerate here individually.⁷ The character and degree of risk change as raw land moves through the process of (favorable) evaluation and (conditional) acquisition, rezoning, regulatory subdivision approvals, legal subdivision, and physical subdivision. While the types of subdivision risk vary throughout the subdivision process, the risks generally fall within the three broad categories: permitting risk, development risk, and marketing risk.

The developer's risk is reduced by the practice of optioning or acquiring land conditioned on the obtaining of rezoning and/or subdivision approval. Under this practice, part of the risks of the subdivision process are shared with the landowner in exchange for part of the rewards associated with obtaining a higher and better use of the land. Only when a land purchase is conditional on achieving subdivision approval and any necessary private landowner agreements have been negotiated is all of the permitting risk eliminated from the subdivision process.

Permitting Risk

The permitting risk results from the subdivision approvals process, and may be impacted by the need to execute private landowner agreements. It may include rezoning, official plan/master plan approval or amendment, site plan approval, subdivision approval, and the obtaining of various permits. Private easements, landowner cost-share agreements, and extractions may be required. Once a subdivision agreement is executed and all of the approvals and permits have been ob-

tained, and there are no nongovernmental impediments to development, the contributory value of the permits and approvals, as well as the permitting risk reward, accrue to the raw land. The permitting risk may be minimal where the necessary rezoning, subdivision approvals, and permitting is relatively simple and where there exists little chance of denial or significant modification to the plan from governmental agencies. The permitting risk may be great, however, in areas where the likelihood of obtaining the necessary approvals and permits cannot be easily known, or where significant modifications to the plan by governmental agencies are likely. Subdivision standards and requirements are typically significantly higher in major urban centers than in rural or semirural municipalities and townships.

The increased involvement of government and citizens in issues such as traffic congestion, noise pollution, soil contamination, hazardous wastes, conservation, growth management, etc., has made the development process more time consuming and costly; it has dramatically increased the risk in obtaining the necessary development and planning approvals, and permits.

Development Risk

The development risk occurs after overcoming the permitting risk of obtaining planning approvals and permits. Development risk occurs during the period of construction and installation of internal infrastructure improvements and construction and installation of any required external infrastructure improvements. Usually this risk is less than either the permitting or marketing risk. Development risk results from the following:

- Potential cost overruns, such as increased infrastructure construction costs,⁸ financing costs, lot levies, development charges
- Delayed completion of the subdivision infrastructure from occurrences such as natural disasters, inclement weather conditions, remediable soil and environmental conditions, or strikes
- Problems with funding of the subdivision infrastructure related to the availability, amount, and cost of development financing

7. Appraisal Institute, *Subdivision Analysis Seminar Workbook*, revised October 1, 1993 (Chicago: Appraisal Institute, 1993), 59–65. James R. MacCrate and David L. Peterson in "Land Investment in the 21st Century," *Real Estate Issues* 24, no. 2 (Summer 1999): 15–24, list five categories of risk consisting of market risk, governmental risk, financial risk, environmental risk, and operating/development risk.

8. Canada, *Garnet Lane Developments Ltd. v. C.R. Investments Ltd.*, [1988] O.J. No. 735. Garnet Lane Developments had acquired a tract of land in the city of Mississauga with draft plan approval from C.R. Investments Ltd. The purchase price of \$2,614,981 consisted of land costs of \$1,977,814, carrying costs of \$460,297, and engineering and development costs of \$176,870. As a condition of final subdivision approval, Garnet Green Developments was required to pay an unexpected \$176,982.76 to the city of Mississauga as a contribution to road improvements, a cost over and above the cost that would normally have been attributed to the development.

- Unforeseen problems that could prohibit completion of the subdivision infrastructure from causes such as unstable soil conditions, soil contamination, unmarked grave sites, endangered wildlife habitat, or proximity to toxic waste

Physical development of a subdivision plan will be stalled even if planning approvals are in place if the development depends on achieving cost-sharing agreements with neighboring property owners for construction of external services or on obtaining easements through adjoining properties for the extension of external services. Obtaining external easements can be both costly and time consuming. The failure to complete necessary infrastructure (internal and external) can forestall subdivision in a timely fashion, void conditional lot presales, and increase the carrying costs of the land to the developer, possibly to the point of financial ruin.

Marketing Risk

Marketing risk is in the risk of failure to sell finished lots in a timely and profitable manner once the permitting and development risks have been overcome. The marketing risk is greater in the early phases of a subdivision and less after a successful development has a proven sales record. A large subdivision carries more marketing risk than a small one, as it will take longer to absorb all of the finished lots. The marketing risk can result from the following:

- Too many finished lots brought on stream (lack of demand)
- Noncompetitive finished-lot pricing
- Wrong size and/or type of finished lots (changing consumer housing preferences)
- Economic conditions that affect housing affordability, such as mortgage rate increases, recession, and plant closings
- Unexpected competition from other developers (inventory not accounted for in the initial market study)

Risk levels can be significantly impacted by the expected number and timing of periodic lot dispositions (including the corresponding revenue stream) within the anticipated absorption period due to the time value of money. Developers attempt to minimize marketing risk by concentrating on conditional presales of finished lots to house builders prior to physically commencing subdivision of a tract. It is not uncommon for developers to negotiate condi-

tional builder-lot presales a year or more in advance of the registration of a proposed plan of subdivision. Without a sufficient number of conditional lot presales, it is unlikely that a prudent developer would physically commence construction of the subdivision plan.

In profiling the overall risk of the subdivision process, there is consensus that the marketing risk of lot absorption is the most significant when highest and best use analysis indicates that immediate subdivision is the highest and best use of land. Only when the developer and the approving authority have executed a subdivision or development agreement, with the parties legally committed to the creation of the subdivision, is the land ripe for development provided financing has been arranged to fund the construction of the infrastructure improvements. As one court aptly observed, land may be ripe for residential development—meaning that there are no impediments to the immediate subdivision of the land and commencement of construction of infrastructure improvements—but the question remains as to whether the developer will be able to sell the proposed finished lots.

All the “development” in the world is of little benefit if the [proposed] lots cannot be sold. That comes down to market factors...Market conditions are essentially the economists’ twin pets of demand and supply.⁹

Developer’s Profit

A developer will acquire a suitable tract, secure all necessary planning and subdivision approvals and permits, arrange financing (debt and equity), retain a general contractor to oversee construction of the subdivision and all infrastructure improvements, negotiate and execute infrastructure construction contracts, and cause finished lots (inventory) to be successfully marketed. Profit on land and infrastructure costs (total project cost) compensate the developer for the coordination and entrepreneurial skill required to take raw land and transform it into a subdivision (legally and physically) of permit-ready finished lots that must be marketed and sold in a timely manner. The monograph *Subdivision Analysis* describes the progressive nature of developer’s profit (entrepreneurial profit), and the possibility of no profit, in the subdivision process:

The developer begins to earn this profit at project inception. The returns grow as the land is bought,

9. Canada, *D & D Construction Ltd. v. Consor Builders Ltd.* [1985] A.J. No. 151 (Q.L.) (Queen’s Bench).

plans are drawn up, [planning] approvals are received [and permits obtained], financing is secured, construction bids are let, construction is begun and ultimately completed, and the lots are sold [absorbed]. It is difficult to quantify exactly how much is earned at each step of the project. It is even conceivable that the project will fail in its later stages of development, resulting in the loss of most or all of the implied profit earned up to that time.¹⁰

Before the subdivision process commences pursuant to an executed subdivision or development agreement between the developer and the approving authority, no entrepreneurial profit has been earned, and therefore there is no entitlement to entrepreneurial profit. The market value at this point is simply the acreage value of the land in its unimproved *as is* state. From a prospective purchaser's perspective, all that is available for acquisition is an undeveloped tract that has the potential to be subdivided.

A tract that is subdivided and brought to a completed stage as finished lots with supporting infrastructure might entitle a developer to some of the anticipated entrepreneurial profit. Provided the development is financially feasible, the entire subdivision as finished lots would be worth more than simply the land value plus direct and indirect development costs incurred by the developer, and if supply and demand were in equilibrium the developer would earn its proportionate share of entrepreneurial profit.

While not a typical practice, the entire subdivision as finished lots could be sold in bulk to a passive investor as an interim purchaser rather than directly to house builders. However, depending on the market-driven bulk-disposition price, no entrepreneurial profit will have been earned by the developer if the price is equal to or less than the actual cost of developing the subdivision.

In theory, the bulk-disposition price will take into account an allowance for entrepreneurial profit, the time value of money over the anticipated sell-out (absorption) period of the finished lots to house builders, and all of the attendant sales commissions, overhead costs, and carrying charges. Profit foregone by the developer remains to be earned by the passive-investor interim purchaser for accepting the marketing risk of selling the inventory of finished lots at the expected retail prices

to house builders within the anticipated absorption period.¹¹ In order for an interim purchaser acquiring a completed subdivision to accept the marketing risk and attendant holding costs, sufficient profit must be available from resale to builders. The amount of profit on resale of the lots to house builders will depend on how quickly and at what price levels the inventory of finished lots can be resold.

There are many potential problem areas within the subdivision process, such as those cited in an informal survey of eight experienced residential developers in "Subdivision Development: Bridging Theory and Practice."¹² According to the developers surveyed, the risks of subdivision are many, varied, and virtually impossible to fully anticipate. Some of the risks mentioned included meeting governmental and utility regulations, dealing with neighborhood complaints, and correcting unforeseen environmental problems. They also cited market risks where the lots may be the wrong size, the wrong asking price, or in the wrong location to satisfy customers.

The developers provided the following specific examples of unforeseen and unexpected development costs:

- A developer indicated that the next phase of his current development would not be nearly as profitable as he had hoped due to unanticipated storm water requirements.
- A developer bemoaned the increase in storm-sewer costs, including piping and retention areas. (These are front-end costs that require a significant capital outlay before revenue from finished lot sales can be realized.)
- A developer alluded to a development where \$120,000 in unexpected costs were incurred to remove limestone when developing a 20-lot subdivision, an unforeseen cost equivalent to \$6,000 per lot (analogous to a profit loss of \$6,000 per finished lot).
- A developer described an \$11,000 cost overrun in building a retaining wall at the entrance to a 23-lot subdivision, adding an unforeseen cost of \$478 per lot.

Consequently, managing and reducing development risk is an important objective in the subdivi-

10. Douglas D. Lovell and Robert S. Martin, *Subdivision Analysis* (Chicago: Appraisal Institute, 1993), 16–19.

11. Dan L. Swango, "A Basic Methodology for Estimating the Market Value of a Subdivision Land Development," *The Real Estate Appraiser* 37, no. 6 (November–December 1971): 13–20. Swango presents a profit allocation theory, combining the cost and income capitalization approaches, assuming disposition of the subdivision upon completion with all the finished lots sold in bulk to a single purchaser for resale. From the overall profit anticipated, part is allocated to the development effort and the balance of the profit is attributed to the marketing effort involved in the resale of the finished lots.

12. Robert W. Owens, "Subdivision Development: Bridging Theory and Practice," *The Appraisal Journal* (July 1998): 274–81.

sion process. The surveyed developers noted techniques that they had used to reduce development risk. For example, one developer indicated a willingness to buy potential subdivision land contingent on preliminary engineering work, including soil drilling, to ensure that the engineering costs are manageable and predictable; this spending of up to \$1,000 per acre was an expenditure that could be lost depending on the outcome of the preliminary engineering work. Other developers discussed the need for competitive bidding on engineering work (significant differences in bid quotes were not unusual) and for fixed-price contracts that shift much of the risk to the contractor. Finally, several developers indicated that presales (lots sold before construction is commenced) are critical to the success of a development. (Such presales are conditional with minimal deposits from shell house-builder corporations, transactions which may not close).

Appraisal and Subdivision Analysis

A significant appraisal function in subdivision analysis is the need for a market survey as part of an appraiser's report. In the "Subdivision Development" survey, developers emphasized the significance of a market survey. One developer emphasized the need for careful market research, including supportable retail sales prices, a full review of the attractiveness of the project compared to other projects, and so forth. In fact, he indicated that the rest of the appraiser's work on an assignment such as this pales in significance by comparison. Another developer suggested that the key to residential development is providing the right product at the right time in the right location, and that it was therefore the appraiser's main job to assess a proposed development project from this perspective.

Skolnik and Domingo¹³ contend that many appraisal reports lack reliable data on the determination of accurate absorption and sales pace or sell off of the subject's lots. They identify new house sales as the basis for the relationship between supply and demand for subdivision land (whether raw, platted, or fully developed). Absorption estimates or capture rates are described as a correlation of supply and demand over time, based on the competitive position of the subject within its market.

Demand for finished residential lots would not exist without demand for new houses spurred by population growth or shifts in population. Without demand there would be no justification to pursue development of raw land potentially available for subdivision.

A developer's perspective on profit is one of financial feasibility; the initial land cost is known or assumed known and explicit development assumptions are made, including cost and lot revenue projections, and the developer's stated yield rate or profit objective. If the net present value calculation at the developer's stated yield rate or stated profit objective is greater than the initial land cost, the development is deemed feasible.¹⁴ An astute risk-averse developer will option or buy land conditionally, and only close on the purchase when profitability from subdivision is reasonably assured through timely attainment of subdivision approval and conditional disposition of future finished lots to house builders at supportable prices. In some instances, the developer will use the house builders' lot-purchase deposits to close the purchase of the raw land.

An appraiser cannot effectively address developer's profit when valuing raw land without planning and development approvals, as a prudent risk-averse developer (not to be confused with a speculator) would have no use for land that cannot be readily transformed into a subdivision of finished lots.

When subdivision represents the highest and best use of land, most appraisers rely on either informal or formal surveys of developers to estimate developer's profit. This estimate of profit is likely to deviate from actual profit. While actual profit is an accomplished fact (historical), profit that is expected or anticipated by a developer may not be achieved. Allison and James in their landmark 1955 study of developers in the Greater Houston Area noted that the amount of profit to which a developer was entitled was subject to considerable speculation and uncertainty.

A developer cannot know, when he contemplates the subdivision of a tract of land, just what his gross profits are going to be. He can estimate this only in terms of what he hopes and expects to get for the lots, what his probable expenses will be and how long it will take to complete the development. It is on this basis that a developer generally decides what price he will and can afford to pay for the raw land.¹⁵

13. Martin A. Skolnik and M. Carla Domingo, "Supply and Demand Considerations in Residential Subdivision Analysis," *The Appraisal Journal* (January 1994): 57-63.

14. William B. Brueggeman, Jeffrey D. Fisher, and Leo D. Stone, *Real Estate Finance*, 8th ed. (Homewood, Illinois: Richard D. Irwin, Inc., 1989), 567-73.

15. Neville F. Allison and Meredith H. James Sr., "Land Value Patterns," October 1955, in *Appraisal Classics: An Anthology of the Professional Journal of the International Society of Residential Appraisers 1935-1960*, ed. Jerry C. Davis and Charles Alvin Tatum, 504-15 (Chicago: Society of Residential Appraisers, 1961).

In their research, Allison and James noted that under the conditions of quick development and strong demand (absorption) that existed in the Greater Houston Area at the time of the study, expectations of developer's profit were as follows:

The amount of profit which would attract...[the developers] into the market varied, but not greatly. Many of them expressed the expected profit as a total dollar amount or on a "per lot" basis, which was converted into percentages [of total investment in the raw land and off-site infrastructure improvements]...Two of the developers questioned indicated a range of from 20% to 25%, but the great majority indicated from 25% to 30%.¹⁶

Compared to the subdivision approvals process of the past, today's subdivision requirements are significantly more onerous and time consuming, and exponentially more costly. There is greater governmental oversight and taxpayer involvement, and subdivision design standards have been raised to unprecedented levels. Greater entrepreneurial skills are required in coordinating the subdivision process and overcoming the increased risks at all stages (permitting, development, and marketing) of the subdivision process.

Provision for Profit

The subdivision development method currently advocated by the appraisal community is essentially an income capitalization approach (yield capitalization) applied to the development of land. It takes into account projected revenue from anticipated lot sales, estimated development costs (direct and indirect), and makes provision for developer's profit. The provision for entrepreneurial or developer's profit within the land valuation model is controversial and not entirely consistent.

Boykin considers it unnecessary to include a separate pro forma line item for developer's profit, arguing that developer's profit is contained in the anticipated price (value) of the finished lots. He recommends that a provision for profit be included in

the discount rate applied to net revenue from lot sales.¹⁷ Kapplin maintains that if there is no separate line item for profit, developer's profit is explicitly captured in the discount rate.¹⁸ Others support the position of a separate line item for profit, and the Appraisal Institute officially supports both positions on the provision for profit. Arguably, if the spread (gross profit margin) between the average lot price and average lot cost failed to provide the developer with a sufficient return, additional profit (as a separate line item) would be necessary to reduce the raw land cost to a level that would make subdivision financially feasible.

Both procedures of accounting for developer's profit in a discounted cash flow (DCF) format are sensitive to the timing and duration of expected cash flows during the construction and marketing stages of subdivision development. However, it is not readily possible to correlate a separate, fixed developer's profit computed as a percentage of lot revenues and post-profit residual discount rate approach with the single-rate discount approach that includes an implied provision for profit.

Guntermann¹⁹ describes the lack of equivalency in the two procedures of accounting for developer's profit and argues against commingling the two procedures as they will produce estimates of land value that are either too low or too high.

It generally would be inappropriate to split the single discount rate into a developer's profit percentage and residual discount rate or add the separate rates to develop a single discount rate, as is commonly done at the present time. Even if discount rates and developer's profit percentages are correctly estimated from market data, an incorrect estimate of land value would result from the misapplication of either technique.²⁰

According to Wincott, MacCrate, and Koenig,²¹ the market typically does not make provision for developer's profit as a separate line item during each period of a multiperiod cash-flow projection. Where a separate line item for developer's profit is applied in the valuation model, it is difficult to support a

16. Ibid. As noted by Allison and James, "with a strong demand in the growing Houston Area for the past several years, most land developers and residential builders have had an easy task. Almost any location and nearly every type and size of residential construction (in the lower price ranges) would sell readily. Therefore, profits have been generally smaller than normally expected."

17. James H. Boykin, *Land Valuation: Adjustment Procedures and Assignments* (Chicago: Appraisal Institute, 2001), 115.

18. Steven D. Kapplin, "Entrepreneurial Profit, Redux," *The Appraisal Journal* (January 1992): 14-24.

19. Karl L. Guntermann, "The Valuation of Undeveloped Land: A Reconciliation of Methods," *Journal of Real Estate Research* 9, no. 2 (Spring 1994): 169-77.

20. Ibid., 176.

21. D. Richard Wincott, James R. MacCrate, and Scott Koenig, "Land Valuation and Purchase Price Decisions," *Valuation Strategies* (November/December 1997): 20-29.

residual discount rate to apply to the cash flows after deduction of developer's profit.²² Wincott, MacCrate, and Koenig share Guntermann's view that accounting for developer's profit as a separate line item has certain weaknesses.

It assumes that profit is earned evenly throughout the development period. In realty, developers do not receive any cash profits during the early stages of development, because [development] costs generally exceed revenue [from lot sales] during the initial construction period. That is, developers really make their profit on the last [lot] sales at a project...

[A]ccording to our surveys and other discussions with market participants, this approach does not reflect the actions of buyers/developers in the marketplace. Developers generally do not include a [separate] line item for profit in their cash flow analysis except when the [lender-requested] financing arrangements of a deal require it.²³

While Entreken agrees that profit is not earned until the development is sold out, he is of the view that the entrepreneur's profit should also be treated as a separate line item because "this technique separates the interests of the investor from the developer's. A developer would be entitled to a profit based on the sales prices of the lots. The investor would require a return commensurate with the risk."²⁴

Entreken also acknowledges that developers do compare their total development costs (including land) to the aggregate of retail values (ARV), a static valuation model that ignores any explicit assumption of the time value of money in measuring developer's profit. Presumably, the gross profit margin would have to be adequate to justify physically commencing construction of the subdivision.

Swango disagrees with both positions on the treatment of developer's profit, either as a percentage of ARV or as a component of the discount rate, claiming "[i]t is important to point out that [expected] profit should be stated (and always considered) as a percent of or on investment and *not* a percent of potential gross potential [lot] revenue."²⁵ He

provides a formula for converting developer's profit to a percentage of gross lot revenue that overcomes the problem of the need to know the answer (land value) to arrive at the solution.

When there is no specific input provision for profit, the discount rate used to calculate the net present value of the land tends to be significantly higher than the discount rate applied to net lot-sale proceeds that have been adjusted to include a separate allowance for developer's profit. However, where there is no separate line-item provision for profit, the discount rate does not reveal how much of the discount rate accounts for developer's profit and the marketing risk of lot absorption as part of project risk, and how much represents the time value of money.²⁶

The magnitude of expected developer's profit is risk sensitive to the size of the proposed subdivision, the capital requirements for development (raw land, infrastructure, and financing), the timing of expected profit (rate of lot absorption and time value of money), and the degree of certainty attached to the expected profit. For example, a proposed subdivision with all planning approvals in place for a small number of lots, all of which have been presold, will bring profit to the developer quickly and with a degree of certainty. In contrast, the developer's expected return will take significantly longer to realize and is at greater risk if the proposed subdivision is for a large tract with planning approvals pending, a large number of lots, and no conditional lot presales. Even where two proposed subdivisions are identical, if one has lot presales and the other does not, the former would carry less marketing risk and a lower expected rate of profit than the latter. Developers are concerned as to what portion of their expected profit is dependent on near-term performance and its related assumptions, and what portion is dependent on long-term performance and its related assumptions.²⁷

A proposed multiphase subdivision development is particularly problematic, not only as to its impact on financial feasibility and developer's profit, but also as to the method of valuation and defining the

22. All of the investor and developer surveys reviewed failed to include an inquiry as to the residual discount rate applied to cash flows when developer's profit was expressed as a separate line item.

23. Wincott, MacCrate, and Koenig, 26.

24. See Henry C. Entreken's comments on Owens, "Subdivision Development," in Letters to the Editor, *The Appraisal Journal* (January 1999): 112-13.

25. Swango, 20.

26. When there is no separate pro forma line item for profit, the discount rate purportedly accounts for three factors: developer's profit, project risk, and the time value of money. *The Appraisal of Real Estate*, 11th ed. (Chicago: Appraisal Institute, 1996), 329, states that "[t]he discount rate applied, which is derived from and supported from the market, should reflect the risk involved." Whereas, *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), 345, states that "[t]he discount rate applied, which is derived from and supported by the market, should reflect the risk involved and appropriate entrepreneurial profit."

27. Roger J. Brown, "Evaluating Future Input Assumption Risk," *The Appraisal Journal* (April 1998): 151-62.

larger parcel. There may be considerable variance among each planned phase. There may be

- Differences in size, shape, topography, subdivision design, and lot yield
- Differences in width of road allowances (arterial, collector, local) and the number of lineal feet of streets, water, and sewer lines
- Differences in the costs of off-site infrastructure improvements
- Differences in growth-related costs such as lot levies, impact fees, development charges, and educational levies
- Differences in the marketability and price (value) of the proposed lots
- Disproportionate component lots allocated to affordable, subsidized, or geared-to-income housing
- Disproportionate land dedications or allocations for support facilities, such as places of worship, schools, parks, pedestrian and bike paths, buffer and setback zones between incompatible land uses, community centers, and fire and police stations

Developer Surveys

Virtually no current developer surveys are available. Older published reports, however, highlight some of the difficulties associated with drawing comparisons between the reported rates of return (developer's profit) on subdivision development as a result of the differing approaches to calculating expected profit. When a multiperiod (DCF) cost and lot-revenue spreadsheet is used, developer's profit is expressed either as part of the internal rate of return (IRR) or as a separate line item in combination with a residual discount rate reflecting the marketing risk (lot absorption) and the time value of money. However, when a static model is used, with total development costs deducted from total lot revenues, developer profit is

expressed either as a function of the original raw land cost or total development cost (raw land cost and development cost) without explicitly considering the timing of either revenues or expenditures.²⁸

In the second quarter of 1992, a *RCDH Report*²⁹ survey of five residential builders or developers indicated that the respondents anticipated IRRs³⁰ ranging from 18% to 40% for zoned residential land, and all five respondents had no interest in raw land. Results of the *RCDH Report* survey for the third quarter of 1992 were similar to those of the previous quarter, with six of the seven residential builders and developers surveyed indicating no interest in raw land, while anticipating IRRs ranging from 18% to 40% for zoned residential land. In commenting on the factors driving (residential) land acquisitions, the 1992 third quarter *RCDH Report* observed that

[t]he two primary pillars upon which investors in land base their decisions include degree of finish, and projected absorption time. The greater the degree of finish, and the shorter the absorption time, the lower the risk profile and corresponding yield requirement. The reverse is also true.³¹

According to the author of the RCDH survey, absorption periods associated with the expected yields were premised on relatively short terms, all of which were less than three years.

In the 1993 second quarter *CB Commercial National Investor Survey*,³² which focused on the development industry, five residential developers/builders indicated that they anticipated IRRs of 23% to 45% (including profit), averaging 31% for raw land, compared to 20% to 35% (including profit), averaging 26%, for finished lots. All the respondents indicated that at the time of acquisition the sites had subdivision approvals in place; three of the sites

28. The Appraisal Foundation, *Uniform Standards of Professional Practice* (Washington, DC, 2004), Statement on Appraisal Standard No. 10 (SMT-10), Assignments for Use by a Federally Insured Depository Institution in a Federally Related Transaction, section E. 4, appears to preclude use of a static model. It cautions against "[u]sing non-market-based time constraints when applying deductions and discounts in the valuation of proposed construction...and tract developments with unsold units. For example, some appraisers do not apply deductions and discounts if they believe the tract will sell within a year." The statement concludes that "[t]he use of non-market-based time constraints when analyzing a property produces a result that is not market value. In the event a client requests use of non-market based factors, or no discounting for a defined time period, the result is more in character with an investment value or some other value under its specified marketing. Loan liquidation or collection criteria, or accounting applications. When the purpose of an assignment includes client-specified marketing, sale, or acquisition conditions that are distinct from typical market conditions, it is misleading to label the result a market value opinion."

29. Ratcliffe, Cali, Duffy, Hughes & Company, Real Estate Appraising and Consulting, *RCDH Report* (Second Quarter, 1992). The *RCDH Report* ceased publication in 1996. To the best of my knowledge there are no more recent surveys than those quoted in this article that specifically address acquisition of land for subdivision or monitor profit expectations of subdivision land. The dates of these surveys and other materials cited do not diminish the credibility of the conclusions herein.

30. "Internal rate of return (IRR)" is defined as "[t]he annualized yield rate or rate of return on capital that is generated or capable of being generated within an investment or portfolio over a period of ownership. The IRR discounts all returns from the investment, including returns from its termination, to equal the original capital outlay." *The Dictionary of Real Estate Appraisal*, 4th ed. (Chicago: Appraisal Institute, 2002), 150.

31. Ratcliffe, Cali, Duffy, Hughes & Company, Real Estate Appraising and Consulting, *RCDH Report* (Third Quarter, 1992).

32. CB Richard Ellis, *CB Commercial National Investor Survey*, 3, no. 1 (Second Quarter, 1993). CB Richard Ellis has not issued an update of this survey.

acquired were developed with finished lots. Where developer's profit was reported as a separate line item, and not as part of a single discount rate for time (absorption period), risk (marketing), and profit as reflected in the IRR, one of the developer's anticipated 12% to 15% of gross lot sales revenue.

Further, 75% of the respondents in the survey of subdivision investors stated that they do not adjust the discount rate in their DCF analyses if it is leveraged compared with a free-and-clear analysis (i.e., consistent with the all-cash premise of market value). All of the investors were focusing their subdivision acquisitions exclusively on starter/entry-level homes and first-time move-up homes in major metropolitan areas such as California, Phoenix, Denver, and Washington, DC. The quoted investment returns (developer's profit) were absorption-dependant, as

all of the respondents indicated that they have a minimum monthly home sales requirement that would need to be met before they would purchase a subdivision. For the entry-level market the minimum monthly home sales requirements indicated ranged from 1.5 to 6 sales per month, with an average of 3 sales per month [36 sales per year].³³

Owens conducted a survey of developers in about 1997 in the greater Springfield, Missouri, area (40-mile radius with a population of 500,000±), described as a mid-sized, middle-America community with an active and growing residential sector.³⁴ The eight developers surveyed (all house builders) were selected because of several years experience in the development of residential land tracts, as well as a solid real estate development reputation in the community. Regarding acceptable levels of developer's profit, Owens found

there was a wide variety of responses, with most providing an indirect response such as "as much as possible" or "what the market will bear" or "is difficult to predict." One developer indicated that he hoped to net...not less than 15%–20% on subdivision development...Another developer suggested 25%–40% as a reasonable profit goal on land and other major development costs. A third mentioned that he tries to double his "hard" development costs, including land costs, on all land subdivisions...³⁵

As to the use of cash flow spreadsheets, Owens found that

[o]f the eight developers included in the survey, not one used a multiperiod cash flow spreadsheet in preparing revenue and cost estimates. Most of the subdivisions that these developers were building included 60 lots or fewer and were anticipated to be built and sold out within a year or two. In several cases, the developer currently owned or controlled land at one site that was larger than one or two years of lot sales. In these cases, land development was phased to reduce upfront construction costs. Given the relatively short sales horizon anticipated or construction divided into phases, the developers surveyed were simply not interested in the extra refinement of cash flow spreadsheets.³⁶

The short subdivision project horizon of one to two years indicated by the eight developers surveyed by Owens also reflects a concern over marketing risks. Consumer housing preferences and economic conditions can change quickly, and bringing finished lots to the market too far in advance of demand can be financially disastrous, as the cost of holding unsold finished lots is expensive. Carrying charges, interest, taxes and overhead expenses, rapidly absorb normal expected profits.³⁷ Land developers with large tract holdings would take a phased approach to subdivision development in the most cost-effective manner possible.

The necessity of a short development cycle in the subdivision process indicated by the results of Owens's survey is consistent with the findings of an earlier 1988 Urban Land Institute survey of house builders.³⁸ In that survey, the builders (58% of whom bought the land on which they developed) limited their subdivisions to about 100 houses or fewer, which meant that their projects could be accomplished in one to three years, depending on the strength of the new housing market.

Conclusion

Profit from subdivision development is tied to the overall level of risk associated with the subdivision process and ultimate disposition of serviced lots, with the greatest risk involved in the marketing of proposed permit-ready lots.

33. Ibid.

34. Owens.

35. Ibid., 277.

36. Ibid., 278.

37. Percy E. Wagner, "Analysis of Land Development," *The Real Estate Appraiser* 40, no. 3 (May-June 1974): 43–50.

38. Lloyd W. Bookout, *Residential Development Handbook*, 2nd ed. (Washington, DC: Urban Land Institute, 1990), 11.

As numerous surveys suggest, developers are risk-averse. Profit is only measured against land that is suitably zoned to permit subdivision or land where acquisition is conditional on achieving rezoning to permit subdivision and for which construction and lot absorption can be kept to a short development time frame. Securing firm infrastructure quotes, construction financing, and conditional lot-sale contracts with builders helps developers to further reduce overall risk.

While ascertaining the quantum of profit remains an illusive measure unique to each potential subdivision, a developer expects to earn a profit on the total development costs (direct and indirect), including the acquisition cost of the raw land. In the assessment of developer's profit, gross profit margin (the spread between the average lot price and average lot development cost) is an important benchmark. Developers seldom make provision for profit as a separate pro forma line item unless the requirement is lender imposed as a condition of obtaining mortgage financing.

Additional Reading

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