

OVERVIEW OF GENERAL DEVELOPMENT ECONOMICS TECHNICAL MEMORANDUM

INTRODUCTION

This Technical Memorandum provides an overview of real estate development economics. The economics of a development project drive the developer's ability to invest in community-wide benefits, including amenities such as public art, architecture, open space etc., which ultimately become conditions (proffers) with the City of Alexandria. While the expected return for development projects is higher, there is also considerable risk due to uncertainties such as the market, development fluctuations etc. The premise is that private investors can afford to pay proffers only if there is sufficient economic return to support these proffers. If rents and prices can only cover land acquisition, development costs, and a minimum investment return – the private investor cannot afford to invest in community-wide benefits. If rents and prices can cover development costs and satisfy investment return thresholds, the investor can afford to invest in community-wide benefits (proffers).

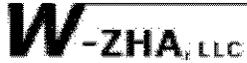
INVESTMENT RETURN THRESHOLDS

Successful real estate projects must generate sufficient revenues (or sale prices) to justify the investor's time, money and risk. For revenue-generating projects (in other words, rental projects, not for-sale projects) the simplest and most common method to get a snapshot of land use economics is the "return-on-cost" ratio. The return-on-cost method divides the net operating income into the development cost. This methodology does not deal with the time value of money, financing, etc. It is a simple calculation that deals with the heart of the matter – the income the asset can produce compared to the cost to develop the asset. This calculation can be done on the back of an envelope.

Net operating income is defined as revenue less operating costs – it does not include debt service. Most retail leases pass through operating expenses to the tenants. Office projects vary – some charge full service rents that cover all operating costs, while others charge triple net rent which means the tenant is charged an additional amount to cover property taxes, maintenance and operating expenses. Full service office rents are assumed in this analysis. Rent in residential projects typically includes operating costs like maintenance and property taxes, but not utilities.

The return-on-cost threshold is comparable to what the Korpasz Investment Survey calls the "overall capitalization rate (OAR)" or initial rate of return on an all cash transaction. As of the first quarter of 2009, investors in the Northern Virginia *office* market accepted OAR's from 5.00 percent to 9.0 percent, with the average OAR at 7.19 percent. This rate of return threshold is 36 points higher than it was one year ago. This is due to a tougher financing environment.

As of the first quarter of 2009 investors in the *rental apartment* market accepted OAR's from 3.80 percent to 9.5 percent, with the average OAR at 6.88 percent. The OAR for apartments is 109 basis points



(1.09 percent) higher than it was one year ago. The higher investment threshold reflects the housing market troubles and the tougher financing environment.

Typically when initially testing the feasibility of a project, developers require a threshold above the average threshold to account for risk and allow a reasonable cushion. For purposes of this analysis, the following return-on-cost thresholds have been assumed as an acceptable rate of return to the investor:

- 8.0 percent return-on-cost threshold for rental residential
- 8.5 percent return-on-cost threshold for office and retail rental projects

If a project's economics cannot meet the return-on-cost threshold, it is unlikely that there will be capital available to support community investment. If a project achieves a return-on-cost that is higher than the threshold, the project can afford to invest in community-wide amenities.

REAL ESTATE DEVELOPMENT ECONOMICS: ILLUSTRATIVE EXAMPLE

Scenario

To illustrate the return-on-cost methodology W-ZHA has assumed that a 5-story residential building is proposed in Potomac Yard. The illustrative building is on 2 acres of land. The illustrative building has 155 rental units and is approximately 165,000 gross square feet. The average unit is assumed to rent at approximately \$1,950 per month. As a base case scenario, we have assumed that Metro is *not* available at Potomac Yard.

Development Cost

Building

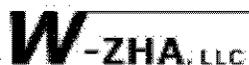
Without any proffers, the cost to develop this type of building (excluding land, parking and financing) is approximately \$172 per gross square foot.

Illustrative Building Cost 5-Story Residential Project

	Per Gross Square Foot
Hard Cost	\$125
Hard Cost Contingency @ 5%	\$7
Site Cost	\$4
Sub-Total: Hard Costs	\$135
Soft Costs @ 23% (Net of Financing Cost)	\$31
Building Total	\$166

Source: W-ZHA

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Site costs (grading, utility hook-ups, sidewalks, landscaping, etc.) are assumed to be \$300,000 per acre which is consistent with an urban infill project. Site costs significantly increase if there is soil contamination or the project is expected to bear other extraordinary costs associated with infrastructure (like the development of a major road).

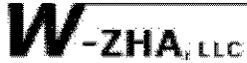
Parking

The cost to develop parking to support this residential building varies greatly depending on both the amount of parking required (either by the zoning code or the market) and the type of parking developed. Without Metro, it is assumed that a residential project will have to provide 1.5 spaces per unit.

These parking spaces are typically provided in either a structured parking garage or underground. As the table below demonstrates parking can account for a significant share of development cost. In this illustrative example parking accounts for between 11 and 25 percent of development costs (excluding land and financing) depending on the type of parking developed.

An “embedded parking structure” assumes that the building wraps around the garage. This type of garage is generally less expensive. The “parking structure with architectural treatment 1” is a freestanding parking structure. While this parking structure is less expensive to construct than the underground options, it also reduces density which has potentially negative impacts to the developer but also the City. At a land cost of \$2.2 million an acre, the cost of the land under a stand alone garage is approximately \$1.3 million.

The “blend of underground and structure” assumes that there is parking in the basement of the building. This option requires no additional land. “Underground 2-plus stories” is a parking garage that is developed two stories or more underground.



**Structured Parking Options
5-Story Residential Project**

	Imbedded Structured Pkg	Structured Parking Garage w/ Architectural Detail	Blend Under & Structure	Underground 2+ Stories
Required Parking @ 1.5 /DU	233	233	233	233
Cost /Space	\$15,000	\$22,500	\$28,000	\$40,000
Parking Cost	\$3,487,500	\$5,231,250	\$6,510,000	\$9,300,000
	Per Gross Square Foot Of Residential			
Parking Cost /Gross Sq Ft	\$21	\$32	\$40	\$56
Building & Land Total	\$166	\$166	\$166	\$166
Total Cost w/ Parking	\$187	\$198	\$206	\$223
<i>Parking's Share of Development Cost</i>	11%	16%	19%	25%

Source: W-ZHA

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For purposes of this analysis, it is assumed that parking is provided within one story under the building.

Land

For purposes of this analysis, W-ZHA has assumed a land cost of \$2.2 million an acre. This is the average assessed value of property (land and improvements) in the Potomac Yard Study Area. For a 2-acre site this translates into a cost of \$27 per gross building square foot.

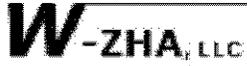
**Illustrative Development Cost
5-Story Residential Project**

Required Parking @ 1.5 /DU	233
Cost /Space	\$28,000
Parking Cost	\$6,510,000
	Per Gross Sq Ft
Parking Cost /Gross Sq Ft	\$40
Building Total	\$166
Building + Parking	\$206
Land Cost /GSF	\$27
Development Cost	\$232

Land Cost Assumed /Acre ----> \$2,200,000

Source: W-ZHA

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Total Development Cost

The total development cost taking into consideration financing costs, land, parking, and the building amounts to approximately \$250 per gross square foot.

**Illustrative Building Cost
5-Story Residential Project**

Required Parking @ 1.5 /DU	233
Cost /Space	\$28,000
Parking Cost	\$6,510,000
	<u>Per Gross</u>
Parking Cost /Gross Sq Ft	\$40
Building Total	\$166
Building + Parking	\$206
Land Cost /GSF	\$27
Development Cost	\$232
Financing	\$12
Total Development Cost	\$244

Source: W-ZHA

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Potential Proffer

Given a rent of \$1,950 per month for a one bedroom with a den (approximately 900 square feet), the developer achieves an 8.1 percent return-on-cost – higher than the investment threshold required (8.0 percent).

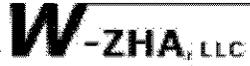
**Illustrative Development Economics
5-Story Residential Project**

Gross Revenue @ \$1,950	\$3,534,000
Parking @ \$100 /Month	\$279,000
Plus: Other Income @ 15%	\$530,100
Less: Vacancy @ 5%	(\$176,700)
Less: Expenses	(\$930,000)
Net Operating Income	\$3,236,400
Development Cost	\$40,194,600
Return-On-Cost	8.1%

Source: W-ZHA

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In this example, the developer can afford to pay \$600,000 in proffers and still achieve an 8.0 percent return on cost.

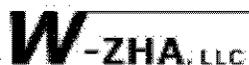


**Illustrative Development Economics
5-Story Residential Project**

Net Operating Income	\$3,236,400
Development Cost	\$40,194,600
Return-On-Cost	8.1%
Proffer Potential	\$400,000
Development Cost	<u>\$40,194,600</u>
Development Cost With Proffer	<u>\$40,594,600</u>
<i>Threshold Return-On-Cost</i>	<i>8.0%</i>

Source: W-ZHA

In this illustrative example, the proffer must cover sewer tap and building permit fees, the affordable housing payment, open space funds, on- and off-site infrastructure improvements and other community amenities.



SCENARIOS

Lower Parking Ratios

Parking does not pay for itself at a rental rate of \$100 per month. Therefore, reducing the amount of parking in the project enhances the project's economics. Good planning and the market require an appropriate amount of parking, however, this can vary dramatically depending on the availability of transit and the mix of uses and density. The example below demonstrates the impact of reducing the required parking from 1.5 spaces per dwelling unit to 1.0 spaces per dwelling unit.

Scenario: Lower Parking Ratio Illustrative Development Economics 5-Story Residential Project

Net Operating Income \$3,143,400

Proffer	\$1,500,000
Development Cost	<u>\$37,902,500</u>
Development Cost With Proffer	\$39,402,500
<i>Return-On-Cost</i>	8.0%

Source: W-ZHA

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Higher Rent

If the achievable rent increases from \$1,950 per unit per month to \$2,050 per unit per month –\$100 more per month – the supportable proffer increases to \$3.3 million. Rental value will increase if Metro is available at Potomac Yard.

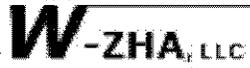
Scenario: Higher Achievable Rent Illustrative Development Economics 5-Story Residential Project

Net Operating Income \$3,441,000

Proffer	\$3,000,000
Development Cost	<u>\$40,194,600</u>
Development Cost With Proffer	\$43,194,600
<i>Return-On-Cost</i>	8.0%

Source: W-ZHA

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CONCLUSIONS

The developer's ability to invest in community amenities is driven by the strength of the market (i.e. achievable rents and revenues) and development costs. Although Potomac Yard is in a relatively strong market, there will likely be considerable costs associated with infrastructure development, which impact the amount of available public amenities. On the other hand, if a Metrorail Station and/or comparable transit amenities are successfully developed at Potomac Yard, it will change the development economics of this location. Therefore, more urban-scale, mixed-use development, densities, and heights will likely occur, and supportable rents will increase, while the considerable expense of parking will likely be reduced, which will enable additional public amenities.