

**FEASIBILITY ANALYSIS**  
**BONUS HEIGHT INITIATIVE**

Prepared For:  
City of Alexandria, VA

Prepared By:  
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## INTRODUCTION

### Study Purpose

Zoning for Housing is the City of Alexandria’s proposal to expand housing production and affordability in the City and mitigate past and current barriers to equitable housing access. Several initiatives are being considered that modify existing zoning regulations to achieve housing goals. W-ZHA was retained to test the economic feasibility of certain Zoning for Housing initiatives.

This report evaluates the Bonus Height Initiative by testing it on three case study sites. The analysis identifies the conditions where the Bonus Height Initiative contributes to fulfilling the City’s housing goals.

Section 7-700 of Alexandria’s zoning code allows for a bonus in either floor area ratio or height if affordable housing is provided. One-third of the bonus achieved through this provision must be dedicated to affordable housing. Affordable housing is defined as units with rent affordable to households earning 60% of the area median income.

Of the 35 projects that have used Section 7-700 only 13 used the bonus height option and these projects did not maximize the allowable height. Currently, Section 7-700 allows for a 25-foot height bonus except for buildings located in a zone of height district where the maximum allowable height is 50 feet or less. The Bonus Height Initiative would remove this restriction and allow the 25-foot height bonus in all residential zones.

### Case Studies

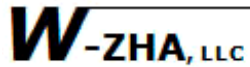
Three sites were used as case studies to test how increasing height impacts redevelopment feasibility and, ultimately, housing production. Table summarizes the characteristics of each case study.

Table 1

Case Study Site Bonus Height Initiative						
Case Study	Address	Neighborhood	Characteristic	Existing Zoning	Site Size Acres	Existing Use
Leadbeater	101 Leadbeater St	Arlandria	Small Site	CSL	0.96	Church
Glendale	200 E. Glendale Ave 201 E. Glendale Ave 300 E. Glendale Ave 301 E. Glendale Ave	Del Ray	Small Site Assemblage Near Metro	RA	1.68	Residential Apts
Normandy Hill	3614 Duke St	West	Large Site	RA	8.82	Residential Apts

Source: City of Alexandria, Department of Planning and Zoning; W-ZHA

The Department of Planning and Zoning prepared redevelopment scenarios for each case study site. Each scenario reflected redevelopment at a different height (3-story, 5-story, etc.). The Department then analyzed whether the height scenario satisfied existing regulations as they pertain to maximum floor area ratio, maximum dwelling unit per acre and minimum land area per unit. W-ZHA tested the feasibility of the scenarios from an economic perspective.



The economic analysis determines whether it would make sense for a developer to pursue the scenario given development costs and the affordable housing requirement. Standard developer return-on-investment metrics were applied to determine feasibility. Sensitivity analyses were conducted to illustrate how investment returns change under different property acquisition cost and rent assumptions.

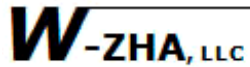
### Report Structure

Developers were interviewed to get their insights on redevelopment economics and how the Bonus Height Initiative might impact development potential. This report begins with developer interview findings. A summary of the findings of the analysis follows. General assumptions applied in the analysis are summarized in the following section. The remainder of the report contains the case study analyses.

### **DEVELOPER INTERVIEW FINDINGS**

Developers and those familiar with development economics in Alexandria were interviewed to understand their perspective on Section 7-700 and the bonus height initiative. Key takeaways from these interviews are as follows:

- Multi-family projects are most efficient at 130-units or more in size. Projects smaller than that run into operating expense inefficiency. For instance, a property manager's salary is the same whether managing a property with 50-units or 100-units.
- It is very difficult and expensive to acquire older properties that are functioning in the Alexandria market. Owners of existing properties often need to be encouraged to sell; meaning property acquisition prices can be very high. To consider redevelopment or sale, existing owners often look to make 3 to 5 times their current investment value.
- To get a project to an appropriate scale multiple parcels may need to be acquired. Property acquisition costs are higher when multiple parcels with different owners need to be assembled.
- When considering whether to pursue Section 7-700, developers will calculate the share of affordable units required to total units. If that ratio is well above 10% the bonus is considered not economical.
- On small sites, parking often dictates a project's size. Developers will calculate how much parking can be developed one-level under the building ("basement parking") and on the street. This calculation will determine how many units they can build. Small projects cannot support the cost of multiple parking levels underground.
- For Section 7-700 projects, height is often not the governor on project size. Instead, the floor area ratio and dwelling unit density provisions limit project size.



## SUMMARY OF FINDINGS

In all the case studies, height is not the primary issue facing redevelopment feasibility. Redevelopment is not feasible because of other regulatory constraints like maximum floor area ratio (FAR), maximum dwelling units per acre, and minimum land square feet per dwelling unit. These restrictions dictate the size of the project and height.

On small sites, the affordable housing required as part of Section 7-700 accounts for a higher share of total units. This can make Section 7-700 less attractive from an economic perspective. On larger sites, the affordable housing required by Section 7-700 can represent a lower percentage of total units.

On small sites it is the cost of parking that drives feasibility. Additional height creates the need for more parking on the site. If an underground parking garage is required, it is cost prohibitive. The additional revenue generated by increased height does not offset the additional cost. In these circumstances, to maximize returns developers will build projects sized to the number of basement parking spaces the site can accommodate.

Older properties near Metro are valuable. Existing values make it difficult for third-party developers to acquire these older properties at an acquisition price that will allow reasonable financial returns from redevelopment.

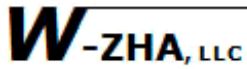
Assuming the regulatory constraints are removed and lower parking ratios, for sites near Metro the density gained by the Bonus Height Initiative can create value and potentially result in redevelopment. Redevelopment will result in more housing units.

Older projects near Metro often contain affordable units now. With redevelopment the City will gain units overall, but the number of affordable units in the redevelopment project may be less than the site provides today.

Assuming the regulatory constraints are removed, the Bonus Height Initiative created value for the large site case study. Here parking can be developed for a reasonable cost, so adding density via height adds value. This enhances redevelopment's value proposition.

Improved properties are valuable in Alexandria no matter where they are located. Acquiring these properties for redevelopment is expensive. Compared to the smaller site case studies, the acquisition cost per unit in the large site case study was lower. As rents increase, large site redevelopment may become more feasible in Alexandria.

In the large site case study, one scenario contemplated a redevelopment program incorporating 7-story buildings. These buildings would take full advantage of the Bonus Height Initiative. In this case, redevelopment produced about the same number of affordable housing units as the number of units existing on the site today.



## ANALYSIS ASSUMPTIONS

The following assumptions are applied in each case study.

### Property Acquisition Cost

To redevelop a property requires that the property be acquired. A range of property acquisition costs were tested. Generally, property acquisition costs ranged from a low of the property's existing value to a high of four times existing value. The low end of the range assumes that the existing owner redevelops the property. The higher acquisition costs assume a third-party developer acquires the property from an existing owner. Existing owners often ask for very high prices to relinquish an essentially risk-free, income producing asset.

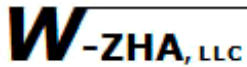
### Development Cost

Table 2

<b>Development Cost Assumptions Bonus Height Initiative</b>	
	<b>Cost Metric</b>
<b>Site Cost</b>	\$95 /SF
<b>Hard Cost</b>	
<5 Stories	\$180 /SF
6 Stories	\$205 /SF
7 Stories	\$225 /SF
<b>Soft Cost</b>	20% of HC
<b>Fit-Out Cost</b>	\$8,000 /Unit
<b>Parking</b>	
Structured Parking	\$40,000 /Space
Basement Parking	\$40,000 /Space
2-Levels Below Grade	\$90,000 /Space
<b>Financing</b>	
Construction	
Interest	7.5%
Points	1.0%

Source: W-ZHA

Table 2 summarizes development cost assumptions. Buildings up to five stories are assumed to be wood construction. Six story buildings assume a concrete podium on the first floor and five stories of wood construction on top. Detailed construction cost estimates were not undertaken as part of this analysis. Costs are order-of-magnitude based on Marshall & Swift cost estimating software and W-ZHA's economic analysis experience for the City of Alexandria.



Units and Rental Rate Assumptions

Table 3

Unit Mix Assumptions Bonus Height Initiative			
Unit Type	NSF	Units	
Studio	550	15	25%
1 Bedrm/1 Bath	750	24	40%
2 Bedrm/2 Bath	1200	21	35%
3 Bedrm/3 Ba	1350	0	0%
<b>Total</b>		<b>60</b>	<b>100%</b>
Average NSF /Unit	858		
Average GSF /Unit @ 85%	1,009		

Source: City of Alexandria, Department of Planning and Zoning; W-ZHA

As per the Department of Planning and Zoning development scenarios, the average unit size is approximately 860 square feet in each case study. W-ZHA assumed a unit mix consisting of studios, 1-bedroom and 2-bedroom apartments. The same unit mix was applied in each case study scenario. A 5% stabilized vacancy rate is applied to all scenarios.

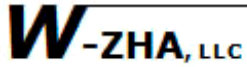
Table 4

60% AMI Affordable Rent Assumptions 101 Leadbeater - 3-Story						
Unit Type	60% AMI	30% of Income for Housing	/Mo	Less: Utilities	Rent	/SF
Studio	\$63,300	\$18,990	\$1,583	(\$103)	\$1,480	\$2.69
1 Bedrm/1 Ba	\$72,360	\$21,708	\$1,809	(\$132)	\$1,677	\$2.24
2 Bedrm/2 Ba	\$81,420	\$24,426	\$2,036	(\$165)	\$1,871	\$1.56
3 Bedrm/3 Ba	\$90,420	\$27,126	\$2,261	(\$196)	\$2,065	\$1.53

Source: City of Alexandria, Department of Housing; W-ZHA

Under Section 7-700 developers must commit at least one-third of the bonus square feet to affordable housing. The analysis assumes that these units are incorporated into the redevelopment project and dispersed in a manner consistent with the market rate units. Table 4 summarizes the monthly rent assumptions for units affordable to households earning 60% of area median income.

Market-supportable rent depends on the location of the case study site. Feasibility is tested on a range of rents. For new construction, the base rent assumptions range from a low of \$2.85 per square foot per month in Normandy Hill to a high of \$3.20 per square foot per month in Del Ray.



Operating Expenses and Property Taxes

In large scale apartment communities operating expenses typically average \$6,500 per unit in Alexandria. According to the National Apartment Association’s “Survey of Operating Income & Expenses”, salaries account for 25% of operating expenses for garden apartments. To account for operating inefficiencies, the analysis assumes a project’s minimum salary and personnel cost is \$180,000. Property taxes were assumed to total \$5,000 per unit.

Financial Assumptions

Table 5

Financial Assumptions Bonus Height Initiative	
	Assumption
All-Cash Internal Rate of Return Threshold	6.3%
Residual Capitalization Rate	4.9%
Capitalization Rate for Valuation	5.0%

Source: W-ZHA

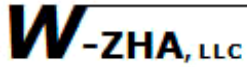
10-year pro formas were developed for each redevelopment scenario. A project was considered feasible if it achieved a 6.25% all-cash internal rate of return. According to the PwC Real Estate Investor Survey (2<sup>nd</sup> Quarter 2023), the national apartment all-cash IRR ranged from 5.75% to 8.0%, with an average of 6.63%. Due to the strength of its market, the City of Alexandria’s real estate thresholds are typically well-below the national average.

**CASE STUDY 1: 101 LEADBEATER STREET**

The Property

Figure 1





101 Leadbeater Street is approximately one acre, and it is currently occupied by a church. The parcel is zoned CSL and under single ownership. Multi-family housing is allowed in the CSL zone. According to property records, the property’s existing value is \$1.5 million.

Table 6

Existing Zoning 199 Leadbeater Street			
Zone:	CSL		
Existing Site Area	41,756		
	<b>Base</b>	<b>7-700</b>	
FAR	0.75	0.975	
Sq Ft <sup>/1</sup>	36,844	47,897	
		<b>DU's/Ac</b>	
Dwelling Units		27	
	<b>Base</b>	<b>7-700 Today</b>	<b>7-700 Modified</b>
Height Max	50'	50'	75'

1. Square feet reflects FAR times site size divided by a building efficiency factor of 85%.

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

Today the maximum height allowed in the CSL zone is 50’. The Bonus Height Initiative would increase the allowable height to 75’.

Scenario 1: Site Redeveloped with a 3-Story Building and Basement Parking

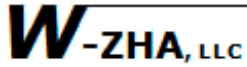
*Program and Regulatory Implications*

Table 7

Program 101 Leadbeater - 3-Story			
Site Size	41,756	SF	
			<b>FAR</b>
Bldg Gross SF	60,783		<b>1.24</b>
			<b>DU's/Acre</b>
Dwelling Units	60		<b>63</b>
Land Area /Unit	<b>696</b>		
Parking	Basement	60	Spaces

Source: City of Alexandria Department of Planning and Zoning; W-ZHA





The 3-story scenario does not use the height bonus. The 3-story scenario maximizes the development envelop given 60 basement parking spaces. A parking ratio of 1 parking space per unit is assumed.

Table 7 demonstrates that the 3-story scenario is not feasible from a regulatory perspective. The floor area ratio of 1.24 exceeds the Section 7-700 limit of 0.975 FAR. The density of 63 dwelling units per acre exceeds the code’s limit of 27 dwelling units per acre.

*Economic Implications*

Even though this scenario would not satisfy code requirements, the economic feasibility of this scenario was tested to better understand redevelopment economics for small sites. The density above the base FAR was assumed to be subject to the one-third affordable housing rule.

Table 8

Development Cost 101 Leadbeater - 3-Story			
Total Cost	\$20,436,000		\$341,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$3,000,000	15%	\$50,000 /Unit
Parking Cost	\$2,400,000	12%	\$40,000 /Space

1. Assumed the base acquisition cost for Normandy Hill is its existing value.

Source: W-ZHA, LLC

The property records reflect the property’s value as a church. If it were to be acquired for residential redevelopment, the analysis assumes that the owner would, at a minimum, value the property at \$3 million or approximately \$50,000 per unit. This analysis assumes a base acquisition price of \$3 million.

A 3-story building with 60 units is estimated to cost \$20.4 million or \$341,000 per unit. Parking accounts for 11% of the project’s cost.

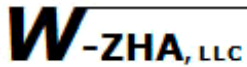


Table 9

Development Program 101 Leadbeater - 3-Story			
		<b>Sq Ft</b>	
Existing Site Area		41,756	
Base FAR <sup>1</sup>	0.75	36,844	
Development Program			
		<b>SF</b>	<b>Units</b>
Scenario SF/Units		60,783	60
FAR <sup>1</sup>		<b>1.24</b>	
Afford Hsg % of _ SF		23,939	<b>% Total</b>
	33% Affordable DU's ----->		8 11.8%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA

Notwithstanding the FAR and dwelling units per acre restrictions, under Section 7-700, 8 of the project's 60 units must be affordable to households earning 60% of the area median income. In this scenario, affordable units represent approximately 12% of total units.

Table 10

Unit Mix and Affordable Rent Assumptions 101 Leadbeater - 3-Story										
Unit Type	Hshld & Unit Size		Unit Mix		Market Rate Units			Affordable Units		
	Hshld Size	NSF	Mix	Units	Units	Rent	/SF	Units	Rent	/SF
Studio	1	550	25%	15	13	\$1,980	\$3.60	2	\$1,480	\$2.69
1 Bedrm/1 Ba	2	750	40%	24	21	\$2,475	\$3.30	3	\$1,677	\$2.24
2 Bedrm/2 Ba	3	1,200	35%	21	18	\$3,108	\$2.59	3	\$1,871	\$1.56
3 Bedrm/3 Ba	4	1,350	0%	0	0	\$0	\$0.00	0	\$2,065	\$1.53
Total/Average		858		60	52	\$2,573	\$3.00	8	\$1,695	\$1.98
<b>Weighted Average Rent</b>		<b>\$2,454</b>	<b>\$2.86 /SF</b>							

Source: W-ZHA

The analysis assumes that new construction will command an average market rent of \$3.00 per square foot or approximately \$2,570 per month. Because this project is small operating expenses are relatively high at \$8,340 per unit. This is because the analysis assumed a minimum salary cost of \$180,000 per year.

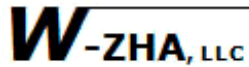


Table 11

Base Value /Acq. Cost	Market Rent→	Cash IRR							
		\$2,530	\$2,573	\$2,658	\$2,744	\$2,830	\$2,916	\$3,001	\$3,087
\$3,000,000	\$50,000 /DU	6.8%	7.1%	7.8%	8.4%	9.1%	9.6%	10.2%	10.8%
1.5X	\$75,000 /DU	5.8%	6.2%	6.8%	7.5%	8.1%	8.6%	9.2%	9.8%
2.0X	\$100,000 /DU	5.0%	5.3%	5.9%	6.6%	7.1%	7.7%	8.3%	8.8%
2.5X	\$125,000 /DU	4.2%	4.5%	5.1%	5.7%	6.3%	6.9%	7.4%	8.0%
3.0X	\$150,000 /DU	3.4%	3.7%	4.4%	5.0%	5.5%	6.1%	6.6%	7.2%
3.5X	\$175,000 /DU	2.7%	3.0%	3.7%	4.2%	4.8%	5.4%	5.9%	6.4%
4.0X	\$200,000 /DU	2.1%	2.4%	3.0%	3.6%	4.1%	4.7%	5.2%	5.7%

Table 11 illustrates a developer’s all-cash internal rate of return given different rent assumptions and property acquisition costs. An all-cash internal rate of return at or above 6.25% is considered feasible for a prospective project in Alexandria. Those scenarios that achieve the minimum threshold are highlighted in green.

At a \$3 million acquisition cost and an average rent of \$3.00 per square foot per month the project is feasible. However, developers interviewed noted that it is not unusual for owners to demand a sale price 3 to 5 times the property’s value.

Table 11 illustrates feasibility at different base value multipliers (for instance 1.5 times the base value, 2 times the base value, etc.). A project where the property acquisition cost is above the base is not feasible at the market rent assumed. Achievable rents would need to be higher for a project to work with higher acquisition costs.

Scenario 2: Site Redeveloped with a 5-Story Building and Underground Structured Parking

*Program and Regulatory Implications*

This 5-story scenario takes advantage of the Section 7-700 Bonus Height Initiative. A 5-story building is approximately 55 to 58 feet high. This is 5 to 8 feet above the existing Section 7-700 50-foot height limit and within the max height (75’) contemplated in the Bonus Height Initiative.

Anything above 3-stories on the Leadbeater site will require underground structured parking, which is very expensive. This analysis assumes \$90,000 per space.

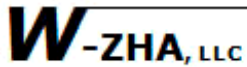


Table 12

Program 101 Leadbeater - 5-Story			
Site Size	41,756	SF	
			<b>FAR</b>
Bldg Gross SF	101,250		<b>2.06</b>
			<b>DU's/Acre</b>
Dwelling Units	105		<b>110</b>
Land Area /Unit	<b>398</b>		
Parking	Underground	105	Spaces

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

This scenario is not feasible from a regulatory perspective. The floor area ratio of 2.06 exceeds the Section 7-700 limit of 0.975 FAR. The density of 105 dwelling units per acre exceeds the code’s limit of 27 units per acre.

*Economic Implications*

In this scenario, the base acquisition cost was held constant at \$3 million. The assumption is that developers will pay for the by-right development potential of the site, not the bonus density.

Table 13

Development Cost 101 Leadbeater - 5-Story			
Total Cost	\$37,685,000		\$359,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$3,000,000	8%	\$28,571 /Unit
Parking Cost	\$9,450,000	25%	\$90,000 /Space

1. Assumed the base acquisition cost for Normandy Hill is its existing value.

Source: W-ZHA, LLC

Like the 3-story scenario, the 5-story scenario is constructed of wood. Unlike the 3-story scenario, underground structured parking must be developed to support the project. Parking accounts for a quarter of the project’s cost.

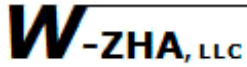


Table 14

Development Program 101 Leadbeater - 5-Story			
		<b>Sq Ft</b>	
Existing Site Area		41,756	
Base FAR <sup>1</sup>	0.75	36,844	
Development Program			
		<b>SF</b>	<b>Units</b>
Scenario SF/Units		101,250	105
FAR <sup>1</sup>		<b>2.06</b>	
Afford Hsg % of _ SF		64,406	<b>% Total</b>
	33% Affordable DU's ----->		21 16.7%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA

Notwithstanding the FAR and dwelling units per acre restrictions, under Section 7-700, 21 of the project’s 105 units must be affordable to households earning 60% of the area median income. Affordable units represent approximately 17% of total units.

Table 15

Base Value /Acq. Cost	Mo Rent→	Cash IRR							
		\$2,534	\$2,577	\$2,663	\$2,749	\$2,835	\$2,921	\$3,007	\$3,093
\$3,000,000	\$28,600 /DU	5.5%	5.8%	6.4%	7.0%	7.5%	8.1%	8.6%	9.1%
1.5X	\$42,900 /DU	5.0%	5.3%	5.9%	6.5%	7.0%	7.5%	8.0%	8.5%
2.0X	\$57,100 /DU	4.5%	4.8%	5.4%	6.0%	6.5%	7.0%	7.5%	8.0%
2.5X	\$71,400 /DU	4.1%	4.3%	4.9%	5.5%	6.0%	6.5%	7.0%	7.5%
3.0X	\$85,700 /DU	3.6%	3.9%	4.5%	5.0%	5.5%	6.1%	6.6%	7.0%
3.5X	\$100,000 /DU	3.2%	3.5%	4.0%	4.6%	5.1%	5.6%	6.1%	6.6%
4.0X	\$114,300 /DU	2.8%	3.1%	3.6%	4.1%	4.7%	5.2%	5.7%	6.1%

The project is only feasible with higher rents, particularly if the cost to acquire the property is above the base value. The underground parking cost outweighs the benefit of having more units on the site. The bonus height does not make economic sense.

Scenario 3: Site Redeveloped with a 6-Story Podium Building and Underground Structured Parking

*Program and Regulatory Implications*

Under the Bonus Height Initiative, the height allowance (75’) would allow a 6-story building. It is assumed that this building would be constructed with a concrete podium and 5 levels of wood construction on top.

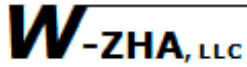


Table 16

Program 101 Leadbeater - 6-Story			
Site Size	41,756	SF	
			<b>FAR</b>
Bldg Gross SF	121,500		<b>2.47</b>
			<b>DU's/Acre</b>
Dwelling Units	126		<b>131</b>
Land Area /Unit	<b>331</b>		
Parking	Underground	126	Spaces

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

This scenario is not feasible from a regulatory perspective. The floor area ratio of 2.47 exceeds the Section 7-700 limit of 0.975 FAR. The density of 131 dwelling units per acre exceeds the code’s limit of 27 dwelling units per acre.

*Economic Implications*

Table 17

Development Cost 101 Leadbeater - 6-Story			
Total Cost	\$48,447,000		\$384,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$3,000,000	6%	\$23,810 /Unit
Parking Cost	\$11,340,000	23%	\$90,000 /Space

1. Assumed the base acquisition cost for Normandy Hill is its existing value.

Source: W-ZHA, LLC

The concrete podium required to develop 6 stories, increases hard cost per square foot to \$205 per square foot. As a result, the development cost increases to \$384,000 per unit.

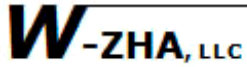


Table 18

Development Program 101 Leadbeater - 6-Story			
		<b>Sq Ft</b>	
Existing Site Area		41,756	
Base FAR <sup>1</sup>	0.75	36,844	
Development Program			
		<b>SF</b>	<b>Units</b>
Scenario SF/Units		121,500	126
FAR <sup>1</sup>		<b>2.47</b>	
Afford Hsg % of _ SF		84,656	<b>% Total</b>
	33% Affordable DU's ----->		28 18.2%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA

Notwithstanding the FAR and dwelling units per acre restrictions, under Section 7-700, 28 of the project’s 126 units must be affordable to households earning 60% of the area median income. Affordable units represent approximately 18% of total units, which is a high ratio.

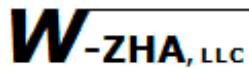
Table 19

Base Value /Acq. Cost	Mo Rent->	Cash IRR							
		\$2,526	\$2,569	\$2,655	\$2,740	\$2,826	\$2,912	\$2,997	\$3,083
		\$2.95	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60
<b>\$3,000,000</b>	<b>\$23,800 /DU</b>	4.8%	5.1%	5.6%	6.2%	6.7%	7.2%	7.7%	8.2%
<b>1.5X</b>	<b>\$35,700 /DU</b>	4.4%	4.7%	5.2%	5.8%	6.3%	6.8%	7.3%	7.8%
<b>2.0X</b>	<b>\$47,600 /DU</b>	4.0%	4.3%	4.8%	5.4%	5.9%	6.4%	6.9%	7.4%
<b>2.5X</b>	<b>\$59,500 /DU</b>	3.6%	3.9%	4.5%	5.0%	5.5%	6.0%	6.5%	7.0%
<b>3.0X</b>	<b>\$71,400 /DU</b>	3.3%	3.6%	4.1%	4.6%	5.1%	5.6%	6.1%	6.6%
<b>3.5X</b>	<b>\$83,300 /DU</b>	2.9%	3.2%	3.8%	4.3%	4.8%	5.3%	5.8%	6.2%
<b>4.0X</b>	<b>\$95,200 /DU</b>	2.6%	2.9%	3.4%	3.9%	4.4%	4.9%	5.4%	5.9%

Table 19 illustrates developer rates of returns under different acquisition cost and rent scenarios. It does not make sense for a developer to increase density beyond what can be supported by basement parking. The added revenues generated by the density do not offset the costs.

*Lessons Learned From This Case Study:*

*Height is not the primary issue facing redevelopment feasibility in this case. Redevelopment is not feasible because of other regulatory constraints like maximum FAR, maximum dwelling units per acre, and minimum land square feet per dwelling unit.*



*On small sites the size of an as-of-right project square footage is small. Therefore, the affordable housing required in Section 7-700 represents a higher percentage of total units. This can challenge project economics.*

*Assuming the regulatory constraints are removed, in this case the density gained by the Bonus Height Initiative will not result in more housing units. On small sites it is the cost of parking that impacts feasibility. The additional height creates a need for more parking on the site and it must be developed in a structure underground. This parking solution is cost prohibitive; the additional revenue does not offset the additional cost. In these circumstances, to maximize returns developers will build projects sized to the number of basement parking spaces the site can accommodate and not use the bonus height.*

## **CASE STUDY 2: 200, 201, 300 AND 301 E. GLENDALE AVENUE**

### The Property

Figure 2



There are four parcels in the Glendale Case Study. The 200 block parcels are essentially the same size on either side of the street. The 300 block parcels are smaller and are also the same size on either side of the street.

These parcels are currently occupied by 1940's era, two- and three-story apartment buildings. According to property records, today the four blocks contain 124 units. As of January 2023, the total assessed value of the four blocks is \$20.06 million or \$78,300 per unit.

As of August 2023, there were two apartments listed for rent. The listings note the neighborhood as Del Ray and highlight that the location is within walking distance to the Braddock Metro. The asking rent is \$1,655 for a 650 or 655 square foot apartment. This translates into a rent of \$2.55 or \$2.76 per square foot per month which is low in the Del Ray neighborhood.



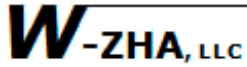


Table 20

Zoning E. Glendale Avenue			
Zone:	RA		
Existing Site Area	145,976		
	<b>Base Zoning</b>	<b>7-700</b>	
FAR	0.75	0.975	
Sq Ft <sup>/1</sup>	128,802	167,443	
Max Units /Acre	27		
Min Land SF /Unit	1,600		
	<b>Zoning</b>	<b>7-700 Today</b>	<b>7-700 Modified</b>
Height Max	45'	50'	75'

1. Square feet reflects FAR times site size divided by a building efficiency factor of 85%.

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

Section 7-700 allows for a 30% increase in floor area ratio if affordable housing is provided. Today the maximum height allowed in the CSL zone is 50'. The Height Initiative would increase the allowable height to 75'.

Scenario 1: Sites Redeveloped with a 3-Story Building and Basement Parking

*Program and Regulatory Implications*

The 3-story scenario does not use the height bonus. Table 21 illustrates the program characteristics for the 200 and 300 blocks.

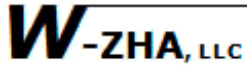


Table 21

Example Programs 200 and 300 E. Glendale Avenue			
	Allowed w/ 7-700	200 E. Glendale	300 E. Glendale
Site Size		45,000 SF	27,988
Bldg Gross SF	FAR 0.975	70,422 FAR <b>1.33</b>	43,218 FAR <b>1.31</b>
Dwelling Units	DU's/Acre 27	76 DU's/Acre <b>74</b>	52 DU's/Acre <b>52</b>
Land Area /Unit	1,600	<b>592</b>	<b>538</b>

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

As is illustrated by 200 and 300 E. Glendale, the 3-story redevelopment scenario is not feasible from a regulatory perspective. The floor area ratio ratios exceed the Section 7-700 limit of 0.975 FAR. The dwelling units per acre ratio exceeds the code’s limit of 27 dwelling units per acre. The square feet of land per dwelling unit is well below the code’s minimum of 1,600 square feet.

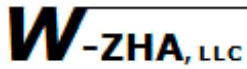
*Economic Implications*

Even though this scenario would not satisfy code requirements, the economic feasibility of this scenario was tested to better understand the redevelopment economics of older properties near Metro.

Table 22

Program All Glendale - 3-Story			
Site Size	145,976	SF	
Bldg Gross SF	227,280	FAR <b>1.32</b>	
Dwelling Units	256	DU's/Acre <b>76</b>	
Land Area /Unit	<b>570</b>		
Parking	Basement	232	Spaces

Source: City of Alexandria Department of Planning and Zoning; W-ZHA



At 3 stories the four-block development project will total approximately 227,300 square feet and have 256 units. The four blocks can accommodate 232 basement parking spaces. With basement parking the parking ratio is 0.9 spaces per unit.

Table 23

Development Program All Glendale - 3-Story			
		<b>Sq Ft</b>	
Existing Site Area		145,976	
Base FAR <sup>/1</sup>	0.75	128,802	
Development Program			
		<b>SF</b>	<b>Units</b>
Scenario SF/Units		227,280	256
FAR <sup>/1</sup>		<b>1.32</b>	
Afford Hsg % of _ SF		98,478	<b>% Total</b>
	33% Affordable DU's ----->	32	11.4%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA

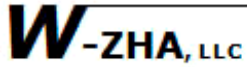
Notwithstanding the FAR and dwelling units per acre restrictions, under Section 7-700, 32 of the project’s 256 units must be affordable to households earning 60% of the area median income. Affordable units represent approximately 11% of total units.

Table 24

Unit Mix and Affordable Rent Assumptions All Glendale - 3-Story											
Unit Type	Hshld & Unit Size		Unit Mix		Market Rate Units			Affordable Units			
	Hshld Size	NSF	Mix	Units	Units	Rent	/SF	Units	Rent	/SF	
Studio	1	550	25%	64	56	\$2,090	\$3.80	8	\$1,480	\$2.69	
1 Bedrm/1 Ba	2	750	40%	102	89	\$2,550	\$3.40	13	\$1,677	\$2.24	
2 Bedrm/2 Ba	3	1,200	35%	90	79	\$3,480	\$2.90	11	\$1,871	\$1.56	
3 Bedrm/3 Ba	4	1,350	0%	0	0	\$0	\$0.00	0	\$2,065	\$1.53	
Total/Average		858		256	224	\$2,762	\$3.22	32	\$1,696	\$1.98	
<b>Weighted Average Rent</b>		<b>\$2,629</b>	<b>\$3.06 /SF</b>								

Source: W-ZHA

Market rents were assumed to be higher at this location because it is in Del Ray and within a quarter mile from the Braddock Metro station. As a base case, rents were set at approximately \$3.22 per square



foot for new construction. With affordable housing the overall average rent in the project is \$2,629 per month or \$3.06 per square foot.

Table 25

**Development Cost  
All Glendale - 3-Story**

Total Cost	\$87,193,000	\$341,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$20,055,000 23%	\$78,340 /Unit
Parking Cost	\$9,280,000 11%	\$40,000 /Space

1. Assumed the base acquisition cost is the existing value of the properties.

Source: W-ZHA, LLC

The cost to develop the 3-story scenario is \$341,000 per unit. The base property acquisition cost (the property’s assessed value) is high at over \$78,000 per unit.

Table 26

Financial Feasibility

Base Value /Acq. Cost	Mo Rent→	Cash IRR							
		\$2,532	\$2,575	\$2,660	\$2,746	\$2,832	\$2,918	\$3,004	\$3,090
		\$2.95	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60
\$20,055,000	\$78,300 /DU	5.5%	5.9%	6.5%	7.1%	7.7%	8.3%	8.9%	9.4%
1.5X	\$117,500 /DU	4.1%	4.4%	5.1%	5.7%	6.3%	6.8%	7.4%	7.9%
2.0X	\$156,700 /DU	2.9%	3.2%	3.8%	4.4%	5.0%	5.5%	6.0%	6.5%
2.5X	\$195,800 /DU	1.8%	2.1%	2.7%	3.2%	3.8%	4.3%	4.9%	5.4%
3.0X	\$235,000 /DU	0.8%	1.1%	1.7%	2.2%	2.8%	3.3%	3.8%	4.3%
3.5X	\$274,200 /DU	-0.1%	0.2%	0.7%	1.3%	1.8%	2.4%	2.9%	3.3%
4.0X	\$313,400 /DU	-1.0%	-0.7%	-0.1%	0.5%	1.0%	1.5%	2.0%	2.5%

The project is feasible if the property can be acquired at its existing value. Note that there are multiple owners in this scenario. Therefore, it is unlikely that the base acquisition cost is realistic. If a developer pays a higher acquisition cost the project is infeasible at the market rent assumed (approximately \$3.20 per square foot per month).

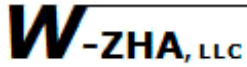


Table 27

Existing Owner Value Proposition All Glendale - 3-Story			
Existing Property Value		<b>\$20,055,000</b>	<b>Very Low Risk</b>
Redevelopment Value		<b>\$86,000,000</b>	<b>Risk</b>
NOI	\$4,300,000		
Capitalization Rate	5.0%		
Investment Multiplier		4.29	

Source: W-ZHA

One question is whether an owner would demolish a risk-free asset worth \$20 million to develop a riskier project worth \$86 million. Typically, redevelopment makes sense to an owner if the new project represents at least three to five times the investment value. The project would need to command higher rents to be five times as valuable as the property is today.

Scenario 2: Sites Redeveloped with a 4-Story Building and Basement Parking

*Program and Regulatory Implications*

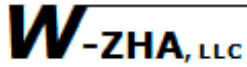
The 4-story scenario does not use the height bonus. Table 28 illustrates the program characteristics for the 200 and 300 blocks.

Table 28

Example Programs 4-Story Buildings 200 and 300 E. Glendale Avenue			
	Allowed w/ 7-700	200 E. Glendale	300 E. Glendale
Site Size		45,000 SF	27,988
Bldg Gross SF	FAR 0.975	91,518 FAR <b>1.73</b>	57,752 FAR <b>1.75</b>
Dwelling Units	DU's/Acre 27	99 DU's/Acre <b>96</b>	70 DU's/Acre <b>53</b>
Land Area /Unit	1,600	<b>455</b>	<b>400</b>

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

This 4-story redevelopment scenario is not feasible from a regulatory perspective. The floor area ratio ratios exceed the Section 7-700 limit of 0.975 FAR. The dwelling units per acre ratio exceeds the code's



limit of 27 dwelling units per acre. The square feet of land per dwelling unit is below the code’s minimum of 1,600 square feet per unit.

*Economic Implications*

Even though this scenario would not satisfy code requirements, the economic feasibility of this scenario was tested to better understand redevelopment economics for older properties near Metro.

Table 29

Program All Glendale - 4 Story			
Site Size		145,976	SF
Bldg Gross SF		298,540	<b>FAR</b> 1.74
Dwelling Units		338	<b>DU's/Acre</b> 101
Land Area /Unit		432	
Parking	Basement	232	Spaces

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

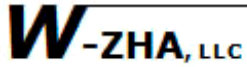
At 4 stories the project will contain 338 units. The sites can accommodate 232 basement parking spaces. The parking ratio is 0.7 spaces per unit. This parking ratio was considered reasonable given proximity to Metro.

Table 30

Development Program All Glendale - 4 Story			
Existing Site Area		<b>Sq Ft</b> 145,976	
Base FAR <sup>/1</sup>	0.75	128,802	
Development Program			
Scenario SF/Units		<b>SF</b> 298,540	<b>Units</b> 338
FAR <sup>/1</sup>		1.74	
Afford Hsg % of _ SF		169,738	<b>% Total</b>
	33% Affordable DU's ----->	56	14.4%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA



Notwithstanding the FAR and dwelling units per acre restrictions, under Section 7-700, 56 of the project’s 338 units must be affordable to households earning 60% of the area median income. Affordable units represent approximately 14% of total units.

Table 31

Unit Mix and Affordable Rent Assumptions All Glendale - 4 Story										
Unit Type	Hshld & Unit Size		Unit Mix		Market Rate Units			Affordable Units		
	Hshld Size	NSF	Mix	Units	Units	Rent	/SF	Units	Rent	/SF
Studio	1	550	25%	85	71	\$2,090	\$3.80	14	\$1,480	\$2.69
1 Bedrm/1 Ba	2	750	40%	135	113	\$2,550	\$3.40	22	\$1,677	\$2.24
2 Bedrm/2 Ba	3	1,200	35%	118	98	\$3,480	\$2.90	20	\$1,871	\$1.56
3 Bedrm/3 Ba	4	1,350	0%	0	0	\$0	\$0.00	0	\$2,065	\$1.53
Total/Average		857		338	282	\$2,759	\$3.22	56	\$1,695	\$1.98
<b>Weighted Average Rent</b>		<b>\$2,582</b>	<b>\$3.01 /SF</b>							

Source: W-ZHA

As a base case, rents were set at an average of \$3.22 per square foot for new construction. With affordable housing this translates into an overall average rent over \$3.00 per square foot.

Table 32

Development Cost All Glendale - 4 Story			
Total Cost	\$104,332,000		\$309,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$20,055,000	19%	\$59,334 /Unit
Parking Cost	\$9,280,000	9%	\$40,000 /Space

1. Assumed the base acquisition cost is the existing value of the properties.

Source: W-ZHA, LLC

The cost to develop the 4-story scenario is \$309,000 per unit. The cost is lower per unit because the number of parking spaces is the same as the 3-story scenario. Parking represents a smaller share of the project’s cost.

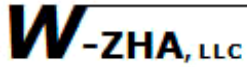


Table 33

Base Value /Acq. Cost	Mo Rent→	Cash IRR								
		\$2,528	\$2,570	\$2,656	\$2,742	\$2,827	\$2,913	\$2,999	\$3,084	
\$20,055,000	\$59,300 /DU	5.9%	6.2%	6.8%	7.5%	8.0%	8.6%	9.2%	9.7%	
1.5X	\$89,000 /DU	4.7%	5.0%	5.6%	6.2%	6.8%	7.3%	7.9%	8.4%	
2.0X	\$118,700 /DU	3.6%	3.9%	4.5%	5.1%	5.7%	6.2%	6.7%	7.2%	
2.5X	\$148,300 /DU	2.6%	2.9%	3.5%	4.1%	4.6%	5.2%	5.7%	6.2%	
3.0X	\$178,000 /DU	1.7%	2.0%	2.6%	3.2%	3.7%	4.3%	4.8%	5.3%	
3.5X	\$207,700 /DU	0.9%	1.2%	1.8%	2.3%	2.9%	3.4%	3.9%	4.4%	
4.0X	\$237,300 /DU	0.2%	0.5%	1.0%	1.6%	2.1%	2.6%	3.1%	3.6%	

Investment returns improve under this scenario, but the project is likely infeasible unless the existing owners redevelop the property.

Table 34

Existing Owner Value Proposition All Glendale - 4 Story			
Existing Property Value		\$20,055,000	Very Low R
Redevelopment Value		\$106,000,000	Risk
NOI	\$5,300,000		
Capitalization Rate	5.0%		
Investment Multiplier		5.29	

Source: W-ZHA

The redevelopment proposition for the existing owner improves under this scenario. The additional income from the additional height creates value.

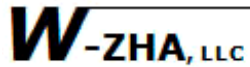
*Lessons Learned From This Case Study:*

*Height is not the primary issue facing redevelopment feasibility in this case. Redevelopment is not feasible because of other regulatory constraints like maximum FAR, maximum dwelling units per acre, and minimum land square feet per dwelling unit.*

*Older sites near Metro are valuable. Existing values make it difficult for third-party developers to acquire these older properties at an acquisition price that will allow reasonable financial returns from redevelopment.*

*Assuming the regulatory constraints are removed, in this case the density gained by the Bonus Height Initiative will create value. The market will accept lower parking ratios because of Metro’s proximity. The primary beneficiary of the Bonus Height Initiative may be the existing owners of the property. Redevelopment may make sense to the owners given the existing value and prospective value of the project. If owners redevelop and other regulatory constraints are removed, the Bonus Height Initiative can result in more housing units.*





*In this case, if redevelopment were to occur the City would lose 124 naturally occurring affordable housing units. Under the highest density scenario, these units would be replaced by 56 affordable housing units and 282 market-rate units. With redevelopment the City would gain units overall but lose affordable housing units.*

### **CASE STUDY 3: NORMANDY HILL, 3614 DUKE STREET**

#### The Property

Figure 3



Normandy Hill is an apartment community containing 156 units on 8.8 acres of land. The community was built in 1962. The community consists of townhouse-style apartments in 3-story buildings. Its current density is 17.68 dwelling units per acre. According to property records, the total value of the property is \$22.2 million, approximately \$142,400 per built unit.

With 1-, 2- and 3-bedroom apartments available, rents range from \$1,348 to \$2,034 per month at Normandy Hill. These apartments are currently affordable for Alexandria.

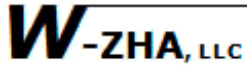


Table 35

Zoning Normandy Hill			
Zone:	RA		
Existing Site Area	384,357	8.8 Acres	
	<b>Base Zoning</b>	<b>7-700</b>	
FAR	0.75	0.975	
Sq Ft <sup>/1</sup>	339,139	440,880	
Max Units /Acre	27		
Min Land SF /Unit	1,600		
	<b>Base Zoning</b>	<b>7-700 Today</b>	<b>7-700 Modified</b>
Height Max	45'	50'	75'

1. Square feet reflects FAR times site size divided by a building efficiency factor of 85%.

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

Section 7-700 allows for a 30% increase in floor area ratio if affordable housing is provided. Today the maximum height allowed in the CSL zone is 50'. The Height Initiative would increase the allowable height to 75'.

Scenario 1: Site Redeveloped with 4-Story Buildings and Above-Grade Structured Parking

*Program*

The 4-story scenario contemplates 4 new, 4-story buildings with above-ground structured parking. This scenario does not need the height bonus. Table 36 illustrates the program characteristics for the Normandy Hill case study.

Table 36

Program 4-Story Buildings Normandy Hill		
	Allowed w/ 7-700	4-Stories
Site Size		384,357 SF
Bldg Gross SF	FAR 0.975	452,000 FAR <b>1.00</b>
Dwelling Units	DU's/Acre 27	450 DU's/Acre <b>51</b>
Land Area /Unit	1,600	<b>854</b>

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

The 4-story redevelopment scenario is not feasible from a regulatory perspective. The floor area ratio exceeds the Section 7-700 limit of 0.975 FAR. At 51 dwelling units per acre this ratio exceeds the code’s limit of 27. The square feet of land per dwelling unit is below the code’s minimum.

*Economic Implications*

Even though this scenario would not satisfy code requirements, the economic feasibility of this scenario was tested to better understand redevelopment economics for larger sites.

The project contains 450 units with 4-story buildings. Two above-grade parking garages will contain 450 parking spaces.

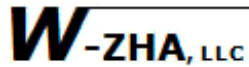


Table 37

Development Program Normandy Hill - 4-Story			
		<b>Sq Ft</b>	
Existing Site Area		384,357	
Base FAR <sup>1</sup>	0.75	339,139	
Development Program			
		<b>SF</b>	<b>Units</b>
Scenario SF/Units		452,000	450
FAR <sup>1</sup>		<b>1.00</b>	
Afford Hsg % of _ SF		112,861	<b>% Total</b>
	33% Affordable DU's ----->		37 7.3%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA

Under Section 7-700, 37 of the project’s 450 units must be affordable to households earning 60% of the area median income. Affordable units represent approximately 7% of total units.

Table 38

Unit Mix and Affordable Rent Assumptions Normandy Hill - 4-Story								
Unit Type	Unit Mix		Market Rate Units			Affordable Units		
	Mix	Units	Units	Rent	/SF	Units	Rent	/SF
Studio	25%	113	104	\$1,925	\$3.50	9	\$1,480	\$2.69
1 Bedrm/1 Ba	40%	180	165	\$2,400	\$3.20	15	\$1,677	\$2.24
2 Bedrm/2 Ba	35%	157	144	\$2,856	\$2.38	13	\$1,871	\$1.56
3 Bedrm/3 Ba	0%	0	0	\$0	\$0.00	0	\$2,065	\$1.53
Average		450	413	\$2,440	\$2.85	37	\$1,695	\$1.98
<b>Weighted Average Rent</b>		<b>\$2.78 /SF</b>						

Source: W-ZHA

Market rents were assumed to be \$2.85 per square foot or an average of \$2,440 per month for new construction at this location. With affordable housing this translates into an overall average rent of \$2.78 per square foot per month.

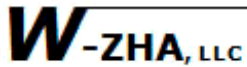


Table 39

**Development Cost  
Normandy Hill - 4-Story**

Total Cost	\$153,069,000	\$340,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$22,219,000 15%	\$49,376 /Unit
Parking Cost	\$18,000,000 12%	\$40,000 /Space

1. Assumed the base acquisition cost for Normandy Hill is its existing value.

Source: W-ZHA, LLC

Assuming wood construction, the cost to develop this scenario is \$153 million. The base acquisition cost is the property's current assessed value.

Table 40

Base Value /Acq. Cost	Mo Rent->	Cash IRR							
		\$2,442	\$2,570	\$2,656	\$2,742	\$2,827	\$2,913	\$2,999	\$3,084
\$22,219,000	\$49,400 /DU	\$2.85	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60
1.5X	\$74,100 /DU	7.5%	8.4%	9.1%	9.7%	10.2%	10.8%	11.3%	11.9%
2.0X	\$98,800 /DU	5.6%	6.6%	7.2%	7.7%	8.3%	8.8%	9.4%	9.9%
2.5X	\$123,400 /DU	4.8%	5.8%	6.3%	6.9%	7.5%	8.0%	8.5%	9.0%
3.0X	\$148,100 /DU	4.1%	5.0%	5.6%	6.1%	6.7%	7.2%	7.7%	8.2%
3.5X	\$172,800 /DU	3.4%	4.3%	4.9%	5.4%	5.9%	6.5%	7.0%	7.4%
4.0X	\$197,500 /DU	2.7%	3.6%	4.2%	4.7%	5.3%	5.8%	6.3%	6.7%

Table 40 illustrates a developer's all-cash internal rate of return given different rent assumptions and property acquisition costs. The red box illustrates the base-case market rent assumption. The project is feasible given the base acquisition cost. An acquisition cost above 1.5 times the base will require higher rents to be feasible.

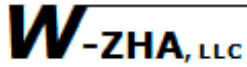
Table 41

**Existing Owner Value Proposition  
Normandy Hill - 4-Story**

Existing Property Value	<b>\$22,219,000</b>	<b>Very Low Risk</b>
Redevelopment Value	<b>\$164,000,000</b>	<b>Risk</b>
NOI	\$8,200,000	
Capitalization Rate	5.0%	
Investment Multiplier	7.38	

Source: W-ZHA

Table 41 illustrates the value proposition if the current owner redevelops the site under this scenario. With a value multiplier over 7.0, the redevelopment may make sense to the existing owner.



Scenario 2: Site Redeveloped with 7-Story Buildings and Above-Grade Structured Parking

*Program*

The 7-story scenario requires the additional 25 feet of height contemplated in the Bonus Height Initiative. Buildings would consist of two stories of concrete podium with five stories of wood construction on top of the podium. Table 42 illustrates the program characteristics for this scenario.

Table 42

Program 7-Story Buildings Normandy Hill			
	Allowed w/ 7-700		7-Stories
Site Size		384,357	SF
Bldg Gross SF	FAR 0.975	734,580	FAR <b>1.62</b>
Dwelling Units	DU's/Acre 27	735	DU's/Acre <b>83</b>
Land Area /Unit	1,600	<b>523</b>	

Source: City of Alexandria Department of Planning and Zoning; W-ZHA

The 7-story redevelopment scenario is not feasible from a regulatory perspective. The floor area ratio exceeds the Section 7-700 limit of 0.975 FAR. At 83 dwelling units per acre this ratio exceeds the code’s limit of 27. The square feet of land per dwelling unit is below the code’s minimum.

*Economic Implications*

Even though this scenario would not satisfy code requirements, the economic feasibility of this scenario was tested to better understand redevelopment economics for larger sites.

The project contains 735 units with 7-story buildings. Two above-grade parking garages will contain 735 parking spaces.

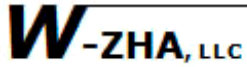


Table 43

Development Program Normandy Hill - 7-Story			
		<b>Sq Ft</b>	
Existing Site Area		384,357	
Base FAR <sup>1</sup>	0.75	339,139	
Development Program			
		<b>SF</b>	<b>Units</b>
Scenario SF/Units		734,580	735
FAR <sup>1</sup>		1.62	
Afford Hsg % of _ SF		395,441	<b>% Total</b>
	33% Affordable DU's ----->	129	17.6%

1. Square feet reflects FAR times site size divided by 85%. Section 7-700 allows 0.975 FAR w/ affordable housing included.

Source: W-ZHA

Because there is so much bonus square feet, affordable housing units would make up a high proportion of the units (18%). Under Section 7-700, 129 of the project's 735 units must be affordable to households earning 60% of the area median income.

Table 44

Unit Mix and Affordable Rent Assumptions Normandy Hill - 7-Story								
Unit Type	Unit Mix		Market Rate Units			Affordable Units		
	Mix	Units	Units	Rent	/SF	Units	Rent	/SF
Studio	25%	184	152	\$1,925	\$3.50	32	\$1,480	\$2.69
1 Bedrm/1 Ba	40%	294	242	\$2,400	\$3.20	52	\$1,677	\$2.24
2 Bedrm/2 Ba	35%	257	212	\$2,856	\$2.38	45	\$1,871	\$1.56
3 Bedrm/3 Ba	0%	0	0	\$0	\$0.00	0	\$2,065	\$1.53
Average		734.58	606	\$2,440	\$2.85	129	\$1,695	\$1.98
<b>Weighted Average Rent</b>		<b>\$2.69 /SF</b>						

Source: W-ZHA

With market-rate and affordable units, the average rent in this scenario is \$2.69 per square foot per month.

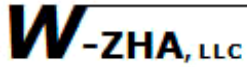


Table 45

**Development Cost  
Normandy Hill - 7-Story**

Total Cost	\$275,210,000	\$375,000 /Unit
Base Acquisition Cost <sup>/1</sup>	\$22,219,000 8%	\$30,247 /Unit
Parking Cost	\$29,383,200 11%	\$40,000 /Space

1. Assumed the base acquisition cost for Normandy Hill is its existing value.

Source: W-ZHA, LLC

A 7-story building requires a double podium and wood construction. The hard cost for this type of construction is assumed to be \$225 per square foot. With a base acquisition cost of \$22 million, the cost to develop this scenario is \$27 million or approximately \$375,000 per unit.

Table 46

Base Value / Acq. Cost	Mo Rent→	Cash IRR							
		\$2,443	\$2,571	\$2,657	\$2,743	\$2,828	\$2,914	\$3,000	\$3,085
\$22,219,000	\$30,200 /DU	6.9%	7.9%	8.6%	9.2%	9.8%	10.4%	11.0%	11.5%
1.5X	\$45,400 /DU	6.3%	7.4%	8.0%	8.6%	9.2%	9.8%	10.4%	10.9%
2.0X	\$60,500 /DU	5.8%	6.8%	7.5%	8.1%	8.7%	9.3%	9.8%	10.4%
2.5X	\$75,600 /DU	5.4%	6.4%	7.0%	7.6%	8.2%	8.8%	9.3%	9.9%
3.0X	\$90,700 /DU	4.9%	5.9%	6.5%	7.1%	7.7%	8.3%	8.8%	9.4%
3.5X	\$105,900 /DU	4.4%	5.4%	6.1%	6.7%	7.2%	7.8%	8.3%	8.9%
4.0X	\$121,000 /DU	4.0%	5.0%	5.6%	6.2%	6.8%	7.3%	7.9%	8.4%

Table 46 illustrates a developer’s all-cash internal rate of return given different rent assumptions and property acquisition costs.

Table 47

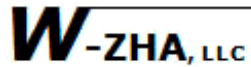
**Existing Owner Value Proposition  
Normandy Hill - 7-Story**

Existing Property Value	<b>\$22,219,000</b>	<b>Very Low Risk</b>
Redevelopment Value	<b>\$266,000,000</b>	<b>Risk</b>
NOI	\$13,300,000	
Capitalization Rate	5.0%	
Investment Multiplier	11.97	

Source: W-ZHA

With a value multiplier near 12.0, the redevelopment is an attractive alternative if the existing owner has an interest in redevelopment.





*Lessons Learned From The Case Study:*

*Height is not the primary issue facing redevelopment feasibility in this case. Redevelopment is not feasible because of other regulatory constraints like maximum FAR, maximum dwelling units per acre, and minimum land square feet per dwelling unit.*

*Assuming the regulatory constraints are removed, the Bonus Height Initiative would be very valuable for large parcels. Parking can be developed for a reasonable cost on large sites. This enhances redevelopment's value proposition.*

*Normandy Hill contains 156 affordable housing units. Assuming other regulatory constraints are removed, a project maximizing the Bonus Height will provide 129 affordable housing units, a comparable number. In addition, 606 new market rate units would be available with redevelopment.*