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DATE: July 31, 2019
TO: Tom Armstrong, City of Portland Bureau of Planning and Sustainability
FROM: Tyler Bump, Michelle Anderson, Madeline Baron and Jared Rollier
SUBJECT: FEASIBILITY RESULTS FOR AFFORDABILITY BONUS ON FOURPLEX DEVELOPMENT

Summary

This analysis evaluates the development feasibility of an affordability bonus within the context of the Residential Infill Project. This analysis sought to evaluate the feasibility of the affordability bonus and considered the following research questions:

- **Affordable Fourplex Feasibility.** Are the affordable incentives sufficient to encourage a developer to actually build the affordable fourplex (one unit at 60% AMI), or would a developer build a market rate triplex or fourplex instead?
- **Feasibility Within Portland Real Estate Market.** Where could a developer find a site in today's real estate market?
- **Making the Affordability Bonus Competitive.** What development incentives need to be offered to fully offset the affordability bonuses to incentivize the affordable fourplex?

Key Findings

- The affordable fourplex is financially feasible in some cases in the inner and middle market areas but at lower rates than market rate triplexes and fourplexes.
- The affordable fourplex has a lower residual land value (RLV) than the market rate triplex and fourplex. Given the choice between the market rate development types and the affordable fourplex, a developer is most likely to build a market rate triplex or fourplex.
- The residual land values for all prototypes indicate that development is feasible in the inner and middle market areas.
- Given current rents and construction costs, it is not currently feasible to develop any of the three prototypes in outer Portland.
- The FAR bonus and development incentives could help nonprofit developers by increasing feasibility and increasing competitiveness (with market rate developers) for site acquisition.
- In order to make the affordable fourplex competitive with the market development types, additional subsidy would be required beyond the incentives analyzed.

1) Background and Purpose

The City of Portland's Residential Infill Project aims to increase housing choices and housing options that better meet a diversity of Portlanders' needs in neighborhoods across the city. The City of Portland's Planning and Sustainability Commission (PSC) identified the following priorities that helped guide decision making of the Residential Infill Project:

- Equitable benefits (such as lower displacement and increased home ownership)
- More housing options
- Less expensive housing options

The Recommended Draft of the Residential Infill Project changes the zoning code to allow up to four units on most residentially zoned lots (R2.5, R5, and R7) in the city.[1] This draft has been recommended by the Planning and Sustainability Commission, and it will go before Portland City Council for consideration in Fall 2019. If approved, the code amendments will allow more housing types, including "missing middle" options, in single family residential zones across the city.

To support the Residential Infill Project's goals of *avoiding increasing the risk of displacement* and *supporting housing affordability and increasing access to amenities* (among other goals), the Bureau of Planning and Sustainability asked ECONorthwest to evaluate the financial feasibility of including an affordability bonus with the Residential Infill Program's code changes. This potential bonus would offer development incentives in exchange for restricting the rent of one unit so that it would be affordable to households earning 60% or below of the area median family income (MFI).[2] The affordability requirements and development incentives modeled are aligned with the City of Portland's Inclusionary Housing Program voluntary option which includes existing financial incentives for units at or below 60% AMI (see Exhibit 1 below).[3]

This analysis sought to evaluate the feasibility of the affordability bonus and considered the following research questions:

A. **Affordable Fourplex Feasibility.** Are the affordable incentives sufficient to encourage a developer to actually build the affordable fourplex (one unit at 60% AMI), or would a developer build a market rate triplex or fourplex instead?

B. **Feasibility within Portland Real Estate Market.** Where could a developer find a site in today's real estate market?

C. **Making the Affordability Bonus Competitive.** What development incentives need to be offered to fully offset the affordability bonuses to incentivize the affordable fourplex?

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[1] https://www.portlandoregon.gov/bps/67730

[2] Affordability requirements of a family earning 60% of the Portland Metropolitan Area 2019 median family income–about $87,900–would pay no more than 30 percent of its gross income on housing costs. Source: Portland Housing Bureau. 2019 Median Family Income and Income Limits. https://www.portlandoregon.gov/PHB/article/731546

[3] City of Portland. Inclusionary Housing. See https://www.portlandoregon.gov/phb/article/652708

Understanding these questions will help the City of Portland Bureau of Planning and Sustainability properly calibrate any affordability incentives for the Residential Infill Project code amendments. If the incentives are insufficient and the fourplex with an affordable unit is not financially feasible for a developer to build, utilization of the affordability bonus will be limited.

2) Analysis Approach

Methods and Data Sources

This analysis uses pro forma models that include the affordability requirements and development incentives from the City's Inclusionary Housing Program, as well as the cost, rent, and location assumptions from previous work conducted by Johnson Economics who previously analyzed potential development outcomes of the Residential Infill Project zoning code amendments.[4]

To determine whether the affordability bonus is feasible, the analysis uses *residual land value* (RLV) to consider financial feasibility from a developer's perspective. RLV is an estimate of a developer's land budget (how much they can pay for land) given the cost of development and the likely revenue generated from rental leases. This analysis uses the same return on cost threshold of 6.33% that Johnson Economics used in their analysis. Return on cost is a metric of the return on investment required by a developer to take on the risk of development. A residual land value below zero means that a development project is not feasible even if land were free. This analysis only evaluated rental housing; the potential impact on ownership housing might vary from these results due to differences in project level costs and revenues that could impact development feasibility in different ways across different geographic markets.

To evaluate feasibility relative to Portland's real estate market, this analysis uses the Multnomah County Assessor tax lot database to identify the last sales price of properties in each of the three market areas over the 2016-2019 time period.

Policy Parameters

The affordability terms and development incentives evaluated in this analysis were identified by Bureau of Planning and Sustainability staff and are generally consistent with the Inclusionary Housing Program voluntary program option.[5] The terms and incentives used in this analysis are shown in Exhibit 1. This analysis uses a 60 percent Area Median Income target for affordable units which translates to a maximum of $1,188 dollars in rent per month for a family of three in a two-bedroom unit.[6]

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[4] Johnson Economics Residential Infill Project Memo to City of Portland. See https://www.portlandoregon.gov/bps/article/705704

[5] https://www.portlandoregon.gov/phb/article/655869

[6] https://www.portlandoregon.gov/phb/article/731546

Exhibit 1. Density Bonus Affordability Terms and Development Incentives Modeled

Affordability Terms (1 unit)	Development Incentives
• 99 year affordability restriction • 60% Area Median Income (AMI)	• Additional 0.1 floor-area-ratio (FAR) bonus • 10 year property tax abatement* • System Development Charges (SDC) waived* • Construction Excise Taxes (CET) waived*

Source: City of Portland Inclusionary Housing. https://www.portlandoregon.gov/phb/article/652708
Note: *The development fees are waived, and property taxes abated, only for the affordable unit

The development incentives include:

- **Floor-area-ratio (FAR) Bonus.** Floor area ratios are one of the development standards that the City uses to regulate development. Limits on FAR affects a development's mass (i.e., height, width, and density) and the overall building configuration. A bonus would allow a developer to build more square footage than would otherwise be allowed in the development standards but does not allow for additional units. FAR bonuses are important to developers because they are oftentimes the limiting factor in overall buildable area.
- **Property tax abatements** exempt a developer or property owner from paying taxes on the property's income (rent revenues less operating expenses). This analysis uses the property tax abatement associated with the Inclusionary Housing Program, which is a 10-year tax abatement for the affordable unit.
- **System Development Charge (SDC) Waivers.** SDCs are fees levied on every new unit of residential development to offset the costs of infrastructure needed to expand capacity and accommodate new residential users. They apply to roads, sewers, and other infrastructure systems. The City levies charges on a per-unit basis, which can add thousands of dollars of project costs to new construction.
- **Construction Excise Tax (CET) Waiver.** Various taxing districts levy CETs. Currently, these fund schools, regional land use planning, and affordable housing programs.

Development Scenarios

The pro forma models test the feasibility of several different development scenarios. This analysis evaluated three different development types in three different market areas, for a total of nine scenarios. Several key assumptions for the pro forma models are listed in Exhibit 2 below and are consistent with Johnson Economics' previous work.[7] This analysis evaluates various different unit sizes between triplex and fourplex development types. Construction costs are most dependent on the total square feet of development allowed in each development scenario and less dependent on the number of bedrooms or the number of walls within each unit. A full list of assumptions can be found in the appendix.

[7] https://www.portlandoregon.gov/bps/article/705704

Exhibit 2. Development Assumptions Varied Between Prototypes

Requirements	Market Rate Triplex	Market Rate Fourplex	Affordable Fourplex
Development Fees	Not waived	Not waived	Waived*
Property Taxes	Not Exempted	Not Exempted	Exempted*
FAR	0.7	0.7	0.8
Unit Size	1,167 sq. ft.	875 sq. ft.	1,000 sq. ft.
# of Bedrooms	2-3 bedrooms	2 bedrooms	2 bedrooms
Market Rents by Geography (per square foot)	Inner: $2.32 Middle: $2.05 Outer: $1.54	Inner: $2.32 Middle: $2.05 Outer: $1.54	Inner: $2.32 Middle: $2.05 Outer: $1.54
Affordable Rents	$1,188 / unit	$1,188 / unit	$1,188 / unit

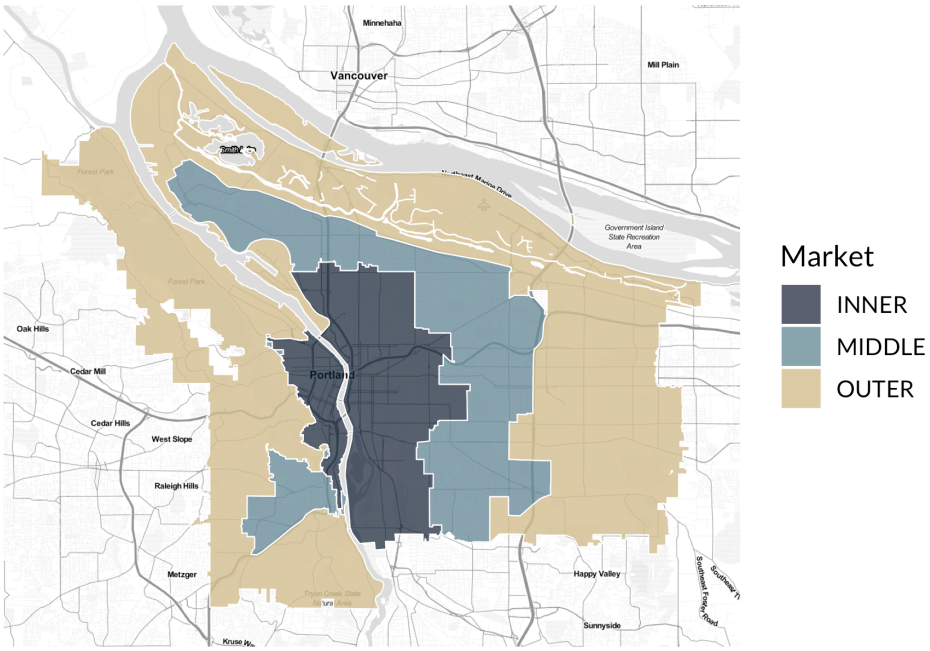
Source: ECONorthwest analysis, City of Portland, Johnson Economics
Note: *The development fees are waived, and property taxes abated, only for the affordable unit

This analysis focuses on new construction development. It does not evaluate the feasibility of converting an existing structure to a triplex or fourplex. In addition, this analysis focuses on rental properties (not condos or other ownership models), and does not evaluate accessory dwelling unit (ADU) developments.

Market Areas

The locations analyzed include "inner," "middle," and "outer" market as shown in Exhibit 3. The three market areas were developed using a statistically significant predictive rent model that was used to aggregate various market areas into three generalized rental markets. While achievable rents vary by location, this analysis uses generalized achievable rents for each of the three market areas, as shown in Exhibit 2 above.

Exhibit 3. Map of Market Areas Included in this Analysis



Source: ECONorthwest Analysis, Bureau of Planning and Sustainability

3) Results

This analysis evaluates the feasibility of the three development types, feasibility across the three market areas, and the competitiveness of the affordable fourplex bonus relative to market rate development prototypes.

A) Affordable Fourplex Feasibility

Development of the affordable fourplex is financially feasible in some cases in the inner and middle market areas. However, the residual land values to support development of the affordable fourplex prototype are approximately 30 percent lower than the market rate development types. It is not currently feasible to develop any of the three prototypes in outer Portland given current achievable rents, demonstrated by negative residual land values. Exhibit 4 summarizes the results for the three development scenarios in the three market areas.

Exhibit 4. Residual Land Values by Prototype and Location

Location	Market Rate Triplex	Market Rate Fourplex	Affordable Fourplex	Difference
Inner Portland	$64.46 per sq. ft.	$64.46 per sq. ft.	$44.80 per sq. ft.	$19.66 or 30%
Middle Portland	$41.88 per sq. ft.	$41.88 per sq. ft.	$28.73 per sq. ft.	$13.15 or 31%
Outer Portland	-$0.75 per sq. ft.	-$0.75 per sq. ft.	-$1.63 per sq. ft.	$0.87 or 116%

Source: ECONorthwest analysis

Exhibit 4 shows that the market rate triplex and fourplex prototypes have the highest residual land values. Because market rate triplex and fourplex prototypes have the same proposed FARs, they have the same residual land value in each of the three market areas. The affordable fourplex has a lower RLV than the market rate triplex and fourplex, meaning that the development incentives are insufficient to encourage the development of the fourplex with one affordable unit compared to the market rate development options. A traditional developer will build the development prototype that has the highest residual land value, which is the market rate triplex or market rate fourplex. The following sections provide detailed results for each market area:

Inner Market Area

The development of a market rate fourplex or triplex in the inner market area is feasible on parcels that cost $64.46 per square foot, or about $322,300 for a typical 5,000 square foot parcel. The inner fourplex with an affordable unit is feasible on lots that cost $44.80 per square foot, or about $224,000 and below. The feasibility gap between the market rate fourplex or triplex and the affordable fourplex is $19.66 or $98,300 for a typical 5,000 square foot parcel - about a 30% reduction.

Middle Market Area

The development of a market rate fourplex or triplex in the middle market area is feasible on parcels that cost $41.88 per square foot, or $209,400 for a typical 5,000 square foot parcel. The middle fourplex with an affordable unit is feasible on lots that cost $28.73 per square foot, or $143,650 and below. The feasibility gap between the market rate fourplex or triplex and the affordable fourplex is $13.15 or $65,750 for a typical 5,000 square foot parcel - about a 31% reduction.

Outer Market Area

The outer market sub-area is most challenged by overall market dynamics. In most situations, the current achievable rents are not high enough to overcome the costs of construction for triplex and fourplex development types which is indicated by negative residual land values. The development of a market rate fourplex or triplex in the outer market area is not feasible with slightly negative residual land values of ($0.75) per square foot.

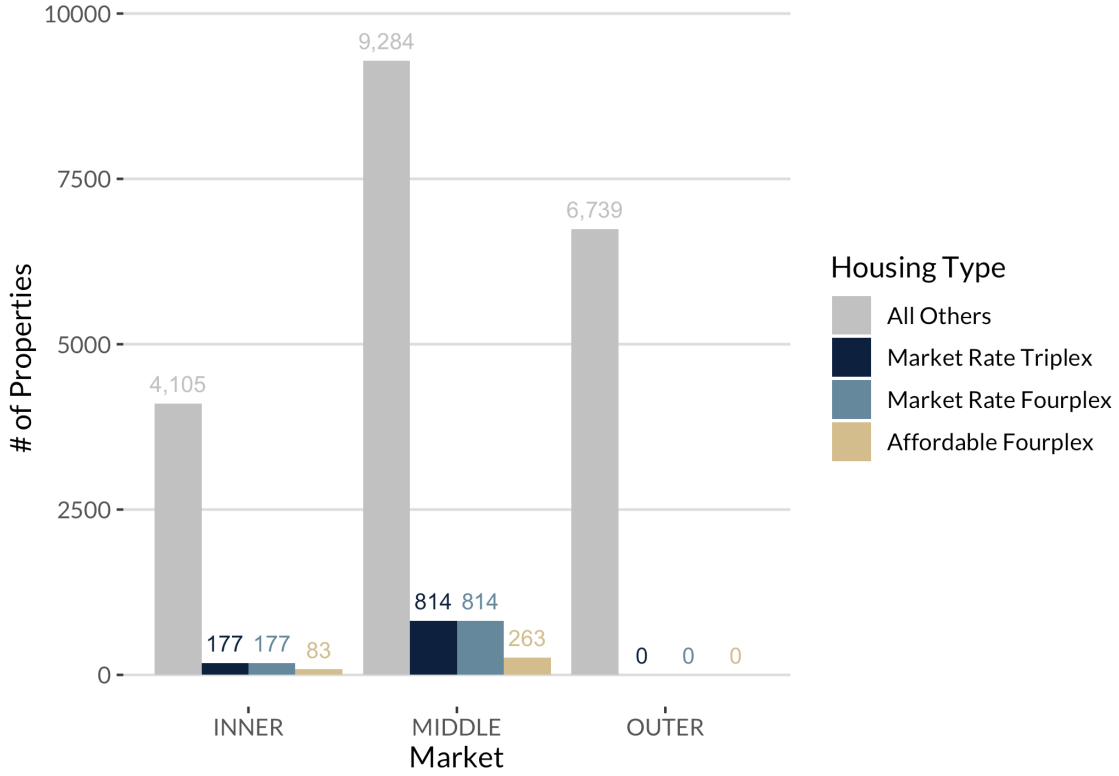
B) Feasibility within the Portland Real Estate Market

The second feasibility consideration is whether the residual land value for each of the development prototypes will cover the cost of purchasing a site in each of the three market areas, given today's market for residential parcels. For example, if a residential parcel costs $300,000 in the inner market, then the residual land value must at least be $300,000 for a developer to purchase a site for a profitable development.

The Multnomah County Assessor database was used to identify the last sales price of properties in each of the three market areas from the last three years, 2016-2019. The analysis then counted how many parcels could have been purchased for each prototype's residual land value in each market (had the allowances for triplex or fourplex prototypes been in place over this period of time). This approach helps provide a hypothetical feasible development capacity by market area for each of the development prototypes.

Exhibits 5 and 6 below summarize the total number of parcels in each market area that sold from 2016 to 2019 for prices less than the residual land value of each development prototype. In each market area, the vast majority of single family residential sites sold during the 2016-2019 time period were priced above the residual land value for the development prototypes. This indicates that, for the majority of sites that have sold over the last three years, the existing single-family home had more value than potential redevelopment as a triplex or fourplex.

Exhibit 5. Number of Parcels Transacted at Feasible RLV Prices (2016-2019)



Source: ECONorthwest Analysis of City of Portland Residential Parcel Tax Lot Data (R2.5,R5, and R7) for 2016-2019

This analysis also finds that, over the last three years, market rate triplex and fourplex development could have occurred on 991 parcels, 177 in the inner market area and 814 in the middle market area, if there were sufficient demand for these unit types. In this same period of time, development could have been feasible for a fourplex with one affordable unit on 346 parcels, 83 in the inner market area and 263 in the middle market area.

Exhibit 6. Number of Parcels Transacted at Feasible RLV Prices (2016-2019)

Location	Market Rate Triplex and Fourplex	Affordable Fourplex	Total
Inner Portland	# of sales below $322,300* **94**	# of sales below $224,000* **83**	**177 parcels**
Middle Portland	# of sales below $209,400* **551**	# of sales below $143,600* **263**	**814 parcels**
Outer Portland	N/A	N/A	**0 parcels**
Total Parcels	**645**	**346**	**991 parcels**

Source: ECONorthwest analysis of City of Portland Residential Parcel Tax Lot Data (R2.5, R5, R7), 2016-2019
Note: *Feasible RLV sales prices are approximated based on a typical 5,000 square foot lot. Number of sales reflects all transactions below the feasible RLV per square foot (from Exhibit 4) and include transactions on all lot sizes.

C) Making the Affordability Bonus Competitive

This analysis also evaluated the development incentives that the City would need to offer to fully offset the affordability requirements and incentivize the affordable fourplex. To evaluate this option, additional sensitivity testing was conducted to understand the impact of various financial and policy changes on the development feasibility of different unit types and sizes.

Full Policy Offset

The value of the financial incentives in each of the three prototypes includes SDC waivers, CET waivers, and a 10-year property tax exemption on the single affordable unit. The value of fee waivers totals almost $35,000 and the net present value of the 10-year property tax exemption is approximately $25,000,[8] for a total cost savings of almost $60,000 for the affordable unit. These financial incentives only partially cover the negative feasibility impact of the regulated affordable unit.

To fully offset the impact to feasibility from the affordable unit, the City would have to offer the following financial incentives in each market area in addition to the property tax exemption on one affordable unit:

- **Inner Market Area:** Financial incentives equivalent to waiving CETs for **two units** and SDC waivers for **all units** in the fourplex, or any combination of incentives equivalent to $133,000 per unit.
- **Middle Market Area:** Financial incentives equivalent to waiving CETs for **two units** and SDC waivers for **three units** in the fourplex, or any combination of incentives equivalent to $102,000 per unit.
- **Outer Market Area:** In order for market rate triplex or fourplex development prototypes to be feasible in outer market areas, market rate rents for new construction would need to increase from $1.54 to $1.95 per square foot on a monthly basis.

Optimized Square Footage

This analysis also conducted sensitivity testing on the FAR bonus to optimize the value of additional square footage. The optimum bonus for the fourplex scenario was determined to be 0.1 FAR.

- When FAR increases with the bonus but the unit allowance stays the same, the unit types tip to larger three-bedroom units with lower rents on a per square foot basis. This results in lower rates of development feasibility.
- As the unit sizes get larger from additional FAR, the rents necessary to support development feasibility increase to levels that are not currently achievable in the Portland market.
- Any additional FAR bonus above 0.1 only has value if additional units are also allowed.

[8] Assuming property taxes of $3,500 per year with a discount rate of 7 percent.

4) Summary of Findings

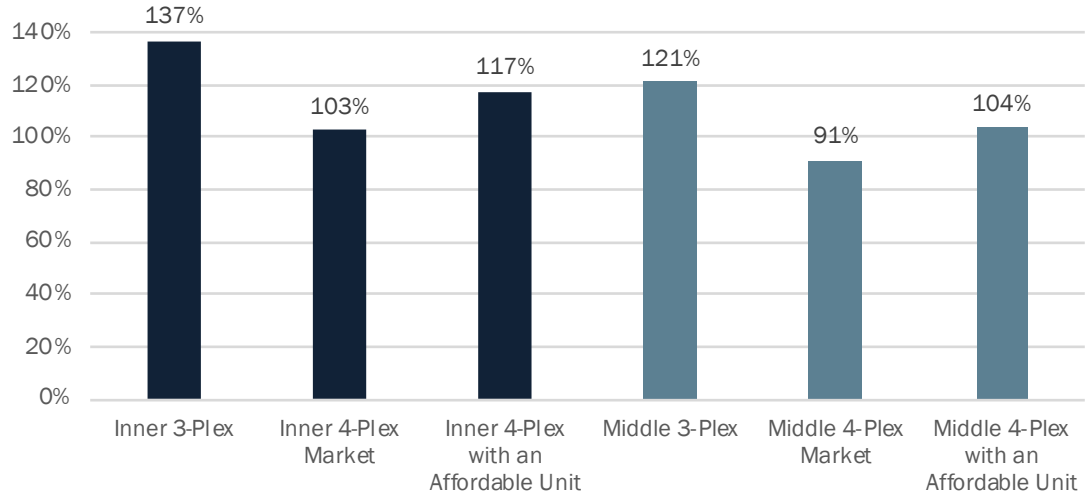
The development type most likely to be built is the market rate triplex (consisting of three, 2-3 bedroom units of approximately 1,167 square feet per unit) or the market rate fourplex (consisting of four, 2 bedroom units of approximately 875 square feet per unit). The slightly larger fourplex with one affordable unit is feasible in limited situations but could help non-profit affordable housing developers be more competitive in land acquisition and build larger family-sized units.

The decision for a developer to build a market rate triplex or a market rate fourplex will likely be determined by the specific business model of the developer. During interviews with developers to validate assumptions, some developers indicated they see a market gap and opportunity for three-bedroom units that could be built more feasibly than in traditional single family or higher density multi-family development types. Developers who discussed a preference for triplex development types predominantly build ownership housing and were indicating preference for triplexes in the context of ownership rather than rentals. Other developers indicated that the fourplex is the preferred development option under the proposed regulations, especially in higher rent neighborhoods with strong demand for rental units.

The outer market areas are challenged by market factors more broadly where the achievable rents in most cases cannot overcome the development cost of any of these development types. This does not mean that no development of middle housing will occur in the outer areas in the short term, rather that when development does occur it will be in sub-markets that already have stronger real estate markets relative to other parts of the outer market area.

The monthly rents for the market rate units vary by development type and by market area. The market rate rents vary by development type due to the differences in FAR allowances and the changing size of the units, depending on total building size allowed. For example, in the inner market area, the potential market rate rents range from 103% AMI for the market rate fourplex to 137% AMI for the market rate triplex because the unit sizes increase from 875 square feet in the fourplex to 1,176 square feet in the triplex (Exhibit 7).

Exhibit 7. Market Rate Rents as a Percent of AMI by Feasible Prototype



Source: ECONorthwest analysis

To make the affordable fourplex competitive with the market rate development types, additional subsidy would be required beyond what was evaluated in this analysis. In the inner market area, the additional subsidy required is $98,300 per fourplex; in the middle market area, the additional subsidy required is $65,750 per fourplex.

Additional density bonus above the 0.1 FAR evaluated in this analysis would only have value if additional units were also allowed. When FAR increases and the unit allowance stays the same, the resulting square footage per unit pushes the unit into a three-bedroom configuration. But because three-bedroom units have lower rents on a per square foot basis, overall feasibility decreases.

The FAR bonus and the development incentives could help nonprofit developers by increasing feasibility and increasing competitiveness (with market rate developers) for site acquisition. Non-profit affordable housing developers utilizing the FAR bonus would also be able to build larger, family sized units.

The supportable residual land values evaluated for all prototypes indicate that utilization of new development standards and unit allowances will occur at moderate rates. In the inner and middle market areas, the vast majority of transactions over the past three years were above the threshold RLV for building a market rate triplex or fourplex. Thus, keeping an existing single-family house is the highest value scenario of the transactions evaluated in the past three years. Over this time, 4.3% of all parcels in single family residential zones in inner neighborhoods sold at prices that would support triplex or fourplex development. In the middle neighborhoods, 8.7% of all parcels in single family residential zones sold at prices that could support triplex or fourplex development.

Appendix: Key Development Pro Forma Assumptions

Construction Costs Assumptions	Amount
Hard	185 / sqft
Soft	included in hard
Fee Exemption (SDC,CET)	($34,983)
NPV of 10 years of property Taxes	($24,583)

Unit Size Assumption	Amount
Zone	R-5 (5,000 sqft lot)
3 plex FAR	0.7
4 plex market FAR	0.7
4 plex affordable FAR	0.8
Land Area	5,000
Number of Units	3-4
1 Bedroom max Unit Size	800
2 Bedroom Max Unit Size	1,000
3 Bedroom Min Unit Size	1,250

Operating Assumptions	Amount
Inner Market, 2 bedroom Rent	2.32 / sqft
Middle Market, 2 bedroom Rent	2.05 / sqft
Outer Market, 2 bedroom Rent	1.54 / sqft
Inner Market, 3 bedroom Rent	2.17 / sqft
Middle Market, 3 bedroom Rent	1.95 / sqft
Outer Market, 3 bedroom Rent	1.54 / sqft
Vacancy	5%
Operating costs	32%
Affordability Units Set Aside	1
Affordability Depth	60%
AMI	$87,900
1 Bedroom Affordable Rent	$990
2 Bedroom Affordable Rent	$1,188
3 Bedroom Affordable Rent	$1,371

Return Calculations	Amount
Loan to Cost	0.8
Interest Rate	5.5%
Number of Periods	30
Debt Service Coverage Ratio	1.15
Return on Costs Threshold	6.33%