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SUBJECT: Beaverton Housing Options Project: Middle Housing Development Feasibility

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## Executive Summary

### Overview

The City of Beaverton's Housing Options Project is considering where and how to allow additional housing types in neighborhoods, consistent with Oregon's House Bill 2001 and local housing goals. The City is exploring three zoning alternatives that prioritize different outcomes and emphasize different approaches. ECONorthwest's evaluation is intended to highlight development feasibility and racial equity implications under these alternatives, with a focus on duplexes, triplexes, quadplexes, and sixplexes. ECONorthwest's analysis is based on development examples called *prototypes*, which represent hypothetical developments aligned with both the alternative zoning regulations and market realities.

Overall, ECONorthwest's analysis suggests that middle housing redevelopment (for the prototypes tested) is unlikely on most developed lots in Beaverton, particularly smaller lots. However, development on vacant infill sites and larger properties where a portion of the site can be sold for development without demolishing the existing home may still be feasible.

New for-sale middle housing is projected to sell for below Beaverton's median home price and less than the price of most new single-family detached housing in Beaverton. Both rental and for-sale middle housing will likely be affordable for households earning between about 60% and 100% of the regional median family income for a family of four. This suggests that if middle housing is financially feasible to develop, it will expand attainable home-ownership opportunities and the supply of housing affordable to moderate-income households in Beaverton.

### Alternatives Analysis

The three alternatives are summarized in brief below, along with key findings related to development feasibility and racial equity.

#### Alternative 1

Alternative 1 prioritizes maximum development opportunities and imposes few constraints on middle housing development. It allows up to a sixplex on most lot sizes, does not require off-street parking, does not limit floor area or unit size, and does not require additional open space beyond the relatively small, required setbacks.

Key findings:

- **Parking:** While parking is not required, new development will often be more marketable if it does have parking, particularly for side-by-side ownership units, where individual garages are common. Most of the prototypes tested could accommodate at least some parking on-site in Alternative 1, in part due to flexibility about setbacks and open space.<sup>1</sup> However, the option to not provide parking made a sixplex possible on a small (3,500 sq. ft.) lot, and many of the prototypes relied on providing less than one space per unit.
- **Floor Area / Building Size:** In many cases, Alternative 1 allows units that are larger than the market is likely to deliver. The lack of floor area restrictions makes development more feasible up to a point, but most prototypes did not need as much building area as would be allowed given the other development standards.
- **Unit Count / Housing Type:** The option to build more units without making units so small that they would not be marketable meant that in many cases, prototypes with more, somewhat smaller units were more financially feasible than those with fewer, larger units.

On balance, Alternative 1 best supports financial feasibility of middle housing development and allows for the greatest variety of middle housing options to be built. It also best supports development of rental housing by flexibly allowing stacked sixplexes on a range of lot sizes and with few constraints on size.

## Alternative 2

Alternative 2 prioritizes middle housing development that minimizes ecological impacts by providing more on-site open space, limiting floor area ratio/average unit size,<sup>2</sup> requiring less than one parking space per unit, and allowing taller buildings (to minimize building footprints).

Key findings:

- **Floor Area Ratio / Average Unit Size:** The floor area ratio limitations in Alternative 2 restrict some of the more feasible forms of middle housing, particularly medium- and larger-sized rowhouse-style<sup>3</sup> units. The inclusion of garage space in the floor area ratio can be problematic for rowhouse-style development, which typically has a garage, because developers would have to reduce living space to accommodate the garage within the floor area limitation. Some developers might build units with tuck-under

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<sup>1</sup> Note that in situations where units are being added to a property with an existing home that will be retained, adding off-street parking can be prohibitive due to site layout challenges. However, for a vacant or fully redeveloped site, parking poses less of an obstacle, particularly on larger sites. Parking located at the front of the lot is easier to accommodate than parking at the rear of the lot, particularly on small, interior lots.

<sup>2</sup> Floor area ratio refers to the relationship between the total floor area of all units on the site and the lot area. This does not directly limit the size of individual units, but it sets an upper limit on the average unit size. ECONorthwest's analysis assumed all units would be the same (average) size for sake of simplicity.

<sup>3</sup> Throughout this memorandum, "rowhouse-style" is used to refer to units that are attached side-by-side. For purposes of this analysis the units are assumed to be on the same lot, though in some cases the lots may be divided.

parking (open air parking spaces located under rest of the unit) rather than enclosed garages to avoid this limitation, but this would have little environmental benefit.

- **Open Space Requirements:** The open space requirement (25% of site area) generally did not impact development potential because it could be met by the land devoted to required setback areas. However, if the City were to impose standards requiring open space areas to be certain sizes / dimensions such that they would require additional land beyond the setbacks, this could constrain building footprints to some extent.
- **Parking:** Parking requirements were generally not a constraint, but where requirements exceed two parking spaces, this could create challenges.
- **Height:** The taller heights allowed in Alternative 2 (38 feet) may not be necessary for the prototypes tested, though several would need to be able to build three full stories, and the additional height flexibility might allow more options for roof designs.

On balance, Alternative 2 does the least to support feasibility of middle housing. It may support smaller units in the sense that it restricts larger ones, which are often more financially feasible, but given the relatively low financial feasibility of the smaller units, it is more likely that it would just reduce the overall amount of middle housing development.

### Alternative 3

Alternative 3 prioritizes middle housing that responds to the size, shape, and scale of existing homes based on different eras of development in different parts of the City. It limits floor area ratio/average unit size (but to a lesser extent than Alternative 2), imposes lower height limits in certain areas, requires larger front and rear setbacks, and requires one parking space per unit for most prototypes.

#### Key findings:

- **Floor Area Ratio / Average Unit Size:** The floor area ratio limitations in Alternative 3 generally are not a major limitation on development potential, as they align fairly well with the unit sizes that would be desirable given the other regulations. However, in some circumstances, they limit unit sizes more for higher-density middle housing types. This could have the unintended consequence of incentivizing fewer, larger units rather than more, smaller units, since fewer larger units in some cases appear to be more financially feasible.
- **Parking:** In some cases, the higher parking requirements in Alternative 3 preclude a given type of middle housing or substantially restrict the average unit size that fits on the site, particularly for stacked units where more than two spaces were required.
- **Setbacks:** The larger front and rear setbacks in Alternative 3 constrained building footprints in some cases, particularly for side-by-side units facing the side lot line.
- **Open Space Requirements:** The open space requirement (15% of site area) did not impact development potential because it could be met by the land devoted to required setback areas, especially given the relatively large front and rear setback requirements.

- **Height:** The lower height limit (30 feet) in some areas would prevent three-story development, which would create challenges for stacked triplexes and sixplexes. It would also preclude three-story rowhouse-style development, and could complicate floor plans/designs for 2.5-story rowhouse-style development since the upper half-story would need to be able to accommodate livable space while also meeting height restrictions.

On balance, Alternative 3 provides middle housing options that generally align with what the market might tend to produce, but it constrains higher-density middle housing options in particular.

## Displacement Risk Analysis

While middle housing development can expand housing supply and options, it can also potentially lead to redevelopment of existing homes. Because homeowners generally determine when to sell or make major modifications to their property (like converting to middle housing), there is little risk of involuntary displacement for homeowners. For renter-occupied homes, a property owner's decision to redevelop the property could require renters to move out, which can create hardships, particularly lower-income households and those who are more likely to experience discrimination in the housing market.<sup>4</sup> While this impact can be substantial at the individual household level, there only a few of the likely rental properties that fall into categories where redevelopment is likely, or even possible. These few properties are in Central Beaverton and inner Southwest Beaverton.

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<sup>4</sup> State law generally requires that property owners provide 90 days' notice and a relocation assistance payment in this situation, which mitigates but does not prevent hardships.

# Section 1. Introduction

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## Background

The Oregon State Legislature passed HB 2001 in 2019 to provide more housing choices in neighborhoods that currently only allow detached single-family units. The intended goal is to increase the total supply and variety of housing. Many cities in Oregon, including the City of Beaverton, are in the process of revising their zoning codes to allow more housing variety including accessory dwelling units, duplexes, triplexes, fourplexes, multiplexes, cottage clusters, townhouses, and small courtyard apartments in all residential areas.

The City of Beaverton began their Housing Option Project in July 2018, prior to the passage of HB 2001, but is now using the project to address HB 2001 requirements along with local goals related to housing options. The project is considering where and how to allow additional housing types in neighborhoods to:<sup>5</sup>

- Provide more places to live for people with different housing needs, preferences and income levels.
- Encourage diverse housing options so people can stay in their neighborhoods as their needs change.
- Give property owners more choices and flexibility over what types of housing they can build on their land.
- Assist with affordability by allowing more units and smaller units in existing neighborhoods.
- Improve homeownership opportunities that aim to reduce the racial wealth gap that has historically existed for communities of color.

The project schedule and steps are summarized in Exhibit 1. ECONorthwest's analysis will contribute to the Phase 2 exploration of alternatives, along with public input.

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<sup>5</sup> City of Beaverton, "Housing Options Project," <https://www.beavertonoregon.gov/2197/Housing-Options-Project>, accessed June 3, 2021.

**Exhibit 1: Beaverton Housing Options Project Timeline**

Source: City of Beaverton Housing Options Project webpage<sup>6</sup>

Complete	Spring/Summer 2021	Fall 2021	Winter/Spring 21-22
<p><b>Phase 1</b> <b>Identify Issues</b></p> <ul style="list-style-type: none"> <li>• Study existing neighborhood patterns</li> <li>• Research opportunities that allow more housing</li> <li>• Collect public input on community priorities</li> </ul>	<p><b>Phase 2</b> <b>Explore Alternatives</b></p> <ul style="list-style-type: none"> <li>• Develop goals</li> <li>• Consider alternative solutions</li> <li>• Collect public input on potential alternatives</li> </ul>	<p><b>Phase 3</b> <b>Select Alternatives</b></p> <ul style="list-style-type: none"> <li>• Select preferred solutions</li> <li>• Collect public input on preferred solutions</li> <li>• Finalize preferred approach</li> </ul>	<p><b>Phase 4</b> <b>Implement Strategy</b></p> <ul style="list-style-type: none"> <li>• Develop new city rules for housing variety</li> <li>• Collect public input on the new rules</li> <li>• Ask City Council to adopt changes</li> </ul>

The City is exploring three zoning alternatives that prioritize different outcomes and emphasize different approaches. ECONorthwest’s evaluation is intended to highlight development feasibility and racial equity implications of these alternatives.

**Overview of Analysis**

ECONorthwest’s analysis focuses on assessing development feasibility for middle housing given the three regulatory alternatives that the City is currently considering, and evaluating how the resulting housing supports or contributes to racial equity. The analysis focuses on duplexes, triplexes, quadplexes, and sixplexes based on direction from staff; however, several of the prototypes end up being similar to townhouses, and can provide an indication of feasibility for townhouses, despite some differences.

ECONorthwest’s approach to this analysis is summarized in brief below.

- Created market-realistic development examples called *prototypes* that could be built under the potential updated zoning regulations on three example lot sizes.
- Collected market data for comparable types of housing.
- Modeled the financial feasibility of the prototypes in several different market areas within the City of Beaverton using a pro forma model.
- Evaluated how the zoning alternatives advance racial equity, based on how well they support development of low-cost rental and home ownership opportunities, family-sized housing units, and intergenerational housing.

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<sup>6</sup> City of Beaverton, “Housing Options Project,” <https://www.beavertonoregon.gov/2197/Housing-Options-Project>, accessed June 3, 2021.

## Section 2. Zoning Evaluation and Allowed Developments

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### Zoning Alternatives

The three zoning alternatives are summarized below, drawing on descriptions on the City's project website.<sup>7</sup>

- **Alternative 1 – The Maximum Opportunity Approach:** Provide maximum flexibility for property owners and developers that want to add middle housing in Beaverton neighborhoods. Remove the greatest number of potential development barriers to allow property owners more freedom to add housing units in neighborhoods. Middle housing types would be allowed on nearly all lots (over a minimum size) in residential neighborhoods. Bulk and scale of newer homes would be regulated mostly through height maximums and setbacks, facilitating larger buildings. Off-street parking requirements and design standards, if any, would be kept to a minimum.
- **Alternative 2 – The Ecological Footprint Approach:** Regulate the size, shape and orientation of homes to reduce the ecological footprint of housing and mitigate the impacts of climate change. Regulate home size to encourage smaller homes that use less energy. Development standards would be more flexible to support solar energy collection, tree preservation and/or passive cooling opportunities. Rules would require additional open space on the site.<sup>8</sup> Some design standards might regulate the appearance of buildings, such as having windows and doors facing the street. Off-street parking requirements would generally be less than one space per home and some locations would have limits on the maximum number of off-street parking spaces.
- **Alternative 3 – The Neighborhood Context Approach:** Regulate the size, shape and orientation of new homes so that they respond to existing residential development patterns and minimize changes in the look and feel of neighborhoods. Apply context-specific rules for different neighborhood types — older neighborhoods with larger lots and mostly single-story homes, and newer neighborhoods with smaller lots and mostly multi-story homes. Each neighborhood type would have distinct development standards that would allow the same square footage, but with variations in scale and height that reasonably align with the pattern of existing buildings in the neighborhood. This approach would set more design standards, with a focus on how the buildings look from the street. Minimum off-street parking requirements would be higher in this approach.

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<sup>7</sup> City of Beaverton, "Housing Options Project—More Info", <https://www.beavertonoregon.gov/2327/Housing-Options-Project---More-Info>, accessed June 3, 2021.

<sup>8</sup> While there is an open space requirement for Alternatives 2 and 3, ECONorthwest's analysis showed that it could generally be met by the required setback areas, and did not substantially affect the analysis.

Each of the zoning alternatives has multiple sets of standards; Alternative 3 in particular varies by sub-areas of the City. Because of the complexity involved in evaluating multiple zoning standards for three different alternatives and a range of lot sizes and market conditions, staff selected a single set of specific zoning standards for analysis to represent each zoning alternative.

## Middle Housing Prototypes

### Overview

ECONorthwest's analysis is based on market-realistic development examples called *prototypes*. They represent hypothetical developments that could occur in Beaverton if zoning and development regulations were to allow them. ECONorthwest evaluated several residential development examples that could become possible under each of the zoning alternatives based on the following factors and approach.

- **Lot size:** The analysis is based on three example lot sizes—3,500 sq. ft., 5,000 sq. ft., and 7,000 sq. ft.—based on the range of existing lot sizes in Beaverton neighborhoods as well as differences in what the zoning alternatives allow on different lot sizes. The lot sizes were given specific assumed dimensions that are representative of general development patterns in Beaverton.
- **Zoning standards:** For each lot size, ECONorthwest (with input from staff) analyzed what types and forms of middle housing would be allowed on each site size given the specific zoning standards provided by staff for analysis, including setbacks, parking requirements, maximum height, and maximum floor area ratio (FAR). This resulted in over 50 possible prototypes with different combinations of unit sizes and configurations and parking. In some cases, the same or a very similar prototype could meet the standards of two or more zoning alternatives, which allowed for consolidation and focusing on more substantive differences between potential development outcomes.
- **Market trends and common development characteristics:** To focus the analysis further on outcomes that would be most likely to be delivered by the market, ECONorthwest selected prototypes that align best with observed developments in Beaverton and around the Portland region. In some cases, this meant prototypes that are smaller than the maximum size allowed, or that provide more parking than required.

### Market-Based Form Assumptions

Key assumptions related to the form of development based on observations of built examples are summarized below.

- **Parking is preferred over no parking if it does not reduce the number of units that fit on the site or reduce their size below a typical unit size for the market.** For example, Alternative 1 does not require parking. However, ECONorthwest's assessment is that developers are likely to provide parking where possible since renters and buyers would generally prefer to have at least some private parking available. Ownership housing can

be difficult to sell without at least one dedicated parking space for each unit. Rental housing tends to be viable with lower parking ratios and pooled parking areas rather than individual reserved spaces.

- **Rowhouse-style units are more likely to be ownership, which elevates the importance of having a garage for dedicated parking for this style of housing.** This style of development lends itself to individual garages and may be harder to sell without them.
- **Rowhouse-style units that are side-by-side and span multiple floors need a footprint of roughly 500 square feet or more across two or more stories to achieve a reasonable floor plan.** If the constraints do not allow for this layout, the building is assumed to be developed with stacked rather than side-by-side units.
- **Stacked units are unlikely to have more than 3 bedrooms or be larger than about 1,500 sq. ft.** The largest 3-bedroom units in the area today are roughly 1,400-1,500 sq. ft., and there are few of them. There are a number of reasons for this, including cost (large units tend to generate lower rents on a per-square-foot basis than smaller units, though the construction costs can be lower on a per-square-foot basis as well) and demand (many households that could afford and would want such a large unit – generally families with multiple children and moderate to high income – would prefer to rent or buy a single-family home or rowhouse-style unit). Families who rent apartment units / flats often rent a 2-bedroom unit as a lower-cost option that is more broadly available while still allowing a separate bedroom for children.
- **Stacked units smaller than 500 sq. ft. are unlikely to be in demand in this area.** While there are some examples of developments with very small units, most are much larger (at least 650 or 700 sq. ft.) in suburban locations like Beaverton. Units under about 625 sq. ft. may only be marketable in more walkable locations and where demand is highest.
- **Rowhouse-style units are unlikely to be larger than about 2,200 sq. ft.** The largest rowhouse-style (townhouse) units in the area are mostly about 2,200 sq. ft., though there are a few closer to 2,600 sq. ft. The largest units are usually 4-bedroom, 3-bath units.

Exhibit 2 shows the assumptions for unit sizes and bedroom/bathroom counts for the different types of units that informed this analysis.

**Exhibit 2: Unit size and type assumptions**

Unit Type	Size Range	Bedrooms	Bathrooms
Studio Stacked	500-625 sf	0	1
Small Stacked	625-800 sf	1	1
Med Stacked	800-1000 sf	2	2
Large Stacked	1000-1500sf	3	2
Small 2-Bedroom Rowhouse	1100-1400sf	2	2.5
Medium 3-Bedroom Rowhouse	1400-1500sf	3	2.5
Large 3-Bedroom Rowhouse	1500-1900sf	3	2.5
Large 4-Bedroom Rowhouse	1900-2200 sf	4	3

## Prototype Constraints and Options by Zone and Lot Size

The specific constraints and considerations that informed the prototypes for each lot size and zoning alternative are summarized in Exhibit 3.

**Legend:**

**Blue:** Minimal constraints for this housing type.

**Yellow:** Some constraints for this housing type.

**Orange:** Substantial constraints for this housing type.

**Red:** Housing type is not possible.

**Exhibit 3: Prototype Form Considerations**

Lot Size	Housing Type	Alternative 1	Alternative 2	Alternative 3
3,500 sq. ft.	Duplex—Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with up to two front parking spaces work and would be two stories. Front and rear setbacks do not constrain footprint.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR would not constrain stacked units.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR would not constrain stacked units.
	Duplex—Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Very narrow (15-foot wide) duplex units can potentially fit side-by-side facing the street. Individual garages and individual or paired driveways would likely fit if garage width is not restricted relative to the front façade of the unit; this would provide at least two parking spaces. Three stories would be desirable; 2.5 could potentially work. Side-by-side units facing the side with individual garages and a shared driveway take up too much space for this lot size. Side-by-side units facing the side without parking would fit but may be less marketable.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR would limit these to smaller rowhouse-style units.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR would allow a fairly standard-size rowhouse-style unit.
	Triplex—Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fit; a shared driveway to spaces in the rear takes up too much space. Stacked units need to be three stories tall. Front and rear setbacks do not constrain footprint.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 2.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones tested; potentially allowed in other proposed zones for Alternative 3.
Triplex—Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units facing the side with individual garages and a shared driveway take up too much space for this lot size. Side-by-side units without parking might fit, depending on setbacks, but may be less marketable.			
	<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 2.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones tested; potentially allowed in other proposed zones for Alternative 3.	
Fourplex—Stacked		<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fit; a shared driveway to spaces in the rear takes up too much space. Stacked units would likely be two stories tall (two units per floor). Front and rear setbacks do not constrain footprint.		

Lot Size	Housing Type	Alternative 1	Alternative 2	Alternative 3
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 2.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 3.
	Fourplex–Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units facing the side with individual garages and a shared driveway take up too much space for this lot size. Very narrow side-by-side units without parking might fit, depending on setbacks, but may be less marketable.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 2.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 3.
	Sixplex–Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with no parking or two front spaces fit. A shared driveway to spaces in the rear takes up too much space. Stacked units need to be three stories tall (two units per floor).		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 2.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones for Alternative 3.
	Sixplex–Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units would not fit, even without parking.		
5,000 sq. ft.	Duplex–Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with up to two front spaces work and would be two stories.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR and other standards are not major constraints.	<b>Other Constraints:</b> FAR and other standards are not major constraints.
	Duplex–Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Standard townhouse-width units (20 feet wide) can fit side-by-side facing the street. Individual garages and individual or paired driveways would likely fit if garage width is not restricted relative to the front façade of the unit, and would provide at least two parking spaces. Height could be two to three stories depending on unit size.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR would allow a fairly standard-size rowhouse-style unit, and is not a major constraint, though it would preclude the largest unit sizes.	<b>Other Constraints:</b> FAR would allow a fairly large rowhouse-style unit and is not a major constraint.
	Triplex–Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fits with no constraint. A shared driveway to three spaces in the rear likely fit but would limit unit size. Stacked units would need to be three stories.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR and parking (2 spaces) would not constrain stacked units.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR would not constrain unit size, but parking (3 spaces) would. Height limit (30 feet) in some zones would preclude three stories.

Lot Size	Housing Type	Alternative 1	Alternative 2	Alternative 3
	Triplex– Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units facing the side with individual garages may fit, depending on setback requirements, but only with very small footprints. Two and a half to three stories would be needed to allow for a viable unit size with a garage. Side-by-side units without parking would fit but may be less marketable.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Allowed in some areas, not others, but FAR is too low for rowhouse-style units with garages, and parking is required.	<b>Other Constraints:</b> Allowed in some areas, but not others. Where allowed, FAR would allow a relatively small rowhouse-style unit with a garage. Height limit (30 feet) in some zones would preclude three stories.
	Fourplex– Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fit; a shared driveway to spaces in the rear takes up too much space.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones tested; potentially allowed in other proposed zones for Alternative 2, but very few.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones tested; potentially allowed in other proposed zones for Alternative 3, but very few.
	Fourplex– Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units with a shared driveway to individual garages facing the side takes up too much space. Side-by-side units without parking may fit, depending on setbacks, but may be less marketable.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones tested; potentially allowed in very few areas for Alternative 2.	<b>Other Constraints:</b> Not allowed on this lot size in the proposed zones tested; potentially allowed in very few areas for Alternative 3.
Sixplex– Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fit. A shared driveway to spaces in the rear takes up too much space. Stacked units would need to be three stories.			
	<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Not allowed on this lot size.	<b>Other Constraints:</b> Not allowed on this lot size.	
	Sixplex– Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units would not fit, even without parking.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> Not allowed on this lot size.	<b>Other Constraints:</b> Not allowed on this lot size.
7,000 sq. ft.	Duplex– Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with up to two front spaces work.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR and other standards are not major constraints.	<b>Other Constraints:</b> FAR and other standards are not major constraints.
	Duplex– Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Townhouse-width units (22.5 feet wide) can fit side-by-side facing the street. Individual garages and individual or paired driveways would likely fit.		

Lot Size	Housing Type	Alternative 1	Alternative 2	Alternative 3
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR and other standards would allow a fairly large rowhouse-style unit, and are not major constraints.	<b>Other Constraints:</b> FAR and other standards would allow a fairly large rowhouse-style unit, and are not major constraints.
	Triplex—Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces or a shared driveway to spaces in the rear fit. Height would need to be three stories.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR and other standards are not major constraints.	<b>Other Constraints:</b> Height limits could constrain stacked units in some proposed zones.
	Triplex—Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units facing the side with individual garages fit with relatively large rowhouse-style units.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR would allow only small rowhouse-style units with garages.	<b>Other Constraints:</b> FAR and other standards would allow fairly standard-size rowhouse-style units at 2.5 stories.
	Fourplex—Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fit. Stacked units with a shared driveway to spaces in the rear may fit depending on setbacks, though the shared driveway and rear parking would constrain the building footprint and limit unit size for stacked units somewhat.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Setback and open space requirements would increase challenges for stacked units with four rear parking spaces. This would likely still fit in most cases, but would constrain unit size. Some zones require four spaces.	<b>Other Constraints:</b> Setback and open space requirements would increase challenges for stacked units with four rear parking spaces. This would likely still fit in most cases, but would constrain unit size. Providing just two front spaces is not an option (four are required).
	Fourplex—Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Side-by-side units facing the side with individual garages fit with relatively large rowhouse-style units at 2.5 to 3 stories.		
		<b>Other Constraints:</b> None.	<b>Other Constraints:</b> FAR is too low for rowhouse-style units in some zones; others allow only very small rowhouse-style units.	<b>Other Constraints:</b> FAR is just enough to allow small rowhouse-style units.
	Sixplex—Stacked	<b>Physical &amp; Footprint Constraints:</b> Stacked units with two front spaces fit. A shared driveway and rear parking would constrain the building footprint and limit unit size for stacked units somewhat. Stacked units would need to be three stories.		
		<b>Other Constraints:</b> None. Parking not required.	<b>Other Constraints:</b> Allowed in some areas. Where allowed, setback and open space requirements would increase challenges/ constrain average unit size for stacked units if more than two parking spaces were provided (only two are required), but would likely still fit in most cases.	<b>Other Constraints:</b> Allowed in very few areas. Where allowed, setback requirements would increase challenges/constrain average unit size for stacked units with rear parking spaces and might make unit size too small. Four parking spaces required.
	Sixplex—Rowhouse-style	<b>Physical &amp; Footprint Constraints:</b> Lot depth is likely insufficient for six side-by-side units facing the side (units would be less than 15 feet wide even with only 10-foot front and rear setbacks).		

The resulting prototypes evaluated are listed in Exhibit 4. Estimated pricing for the prototypes is based on recent sales transactions and rent data from Beaverton and surrounding areas (see page 19 for details). The columns at right indicate which alternatives allow each prototype, based on the specific draft development regulations associated with the alternative provided by staff.

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For reference, the median sales price for homes in Beaverton (including both new and older homes of all types) is roughly \$510,000 as of May 2021.<sup>9</sup>

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Side-by-side prototypes were modeled as for-sale, accounting for the cost of individual utilities and land division or condominium creation, while stacked units were modeled as rentals. While the City’s zoning regulations will not regulate tenure, legal risk and cost factors tend to encourage fee-simple ownership rather than condominium creation. Recent state legislation (Senate Bill 458) will require jurisdictions to allow a streamlined land division process for all middle housing types covered by HB 2001, including duplexes, triplexes, and quadplexes.<sup>10</sup> This will only apply to units that are attached side-by-side so that each unit can be on its own lot, and units must have separate utilities.

**Legend:**

Symbol	Description
	This prototype <b>does</b> work with the development standards for that alternative based on lot size, housing type, parking requirements, floor area ratio, and/or setbacks
	This prototype <b>does not</b> work with the development standards for that alternative based on lot size, housing type, parking requirements, floor area ratio, and/or setbacks.
	This prototype <b>sometimes</b> works with the development standards for that alternative based on lot size, housing type, parking requirements, floor area ratio, and/or setbacks (i.e., some of the specific zones for the alternative allow the prototype, but others would not).

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<sup>9</sup> Redfin.com, “Beaverton Housing Market,” May 2021.

<sup>10</sup> While these housing types are defined as being two, three, or four units on a lot (respectively), the language of the bill explicitly states that a subsequent land division does not change the housing type that they are defined to be. In other words, if it would be allowed as a triplex and meets the jurisdiction’s development standards as a triplex, it remains a triplex even if the land is divided.

**Exhibit 4: Prototypes**

Source: ECONorthwest, based on market data from Zillow and Redfin.

#	Prototype	Lot Size	Unit Description*	Sales Price or Monthly Rent Range	Alt 1	Alt 2	Alt 3
1	Small Side-by-Side Duplex	3,500 sq. ft.	1,135 sq. ft., 2.5 stories 2 beds, 2.5 baths 1 car garage plus driveway	\$308K - \$315K			
2	Medium Side-by-Side Duplex	3,500 sq. ft.	1,491 sq. ft., 2.5 stories 3 beds, 2.5 baths 1 car garage plus driveway	\$391K - \$408K			
3	Medium Stacked Triplex	3,500 sq. ft.	923 sq. ft. flat (rental) 2 beds, 2.5 baths 1 parking space per unit	\$1,570 - \$1,620/mo			
4	Large Stacked Sixplex	3,500 sq. ft.	1,013 sq. ft. flat (rental) 3 beds, 2 baths No parking	\$1,610 - \$1,670/mo			
5	Medium-Large Side-by-Side Duplex	5,000 sq. ft.	1,822 sq. ft., 2.5 stories 3 beds, 2.5 baths 1 car garage plus driveway	\$431K - \$450K			
6	Medium Side-by-Side Duplex	5,000 sq. ft.	1,467 sq. ft., 2 stories 2 beds, 2.5 baths 1 car garage plus driveway	\$385K - \$402K			
7	Small Side-by-Side Triplex	5,000 sq. ft.	1,347 sq. ft., 3 stories 2 beds, 2.5 baths 1 car garage, shared driveway	\$365K - \$374K			
8	Large Stacked Triplex	5,000 sq. ft.	1,167 sq. ft. flat (rental) 3 beds, 2 baths 1 parking space per unit	\$1,770 - \$1,830/mo			
9	Medium Stacked Fourplex	5,000 sq. ft.	875 sq. ft. flat (rental) 2 beds, 2 baths 0.5 parking spaces per unit	\$1,530 - \$1,590/mo			
10	Large Stacked Sixplex	5,000 sq. ft.	1,400 sq. ft. flat (rental) 3 beds, 2 baths 0.3 parking spaces per unit	\$1,980 - \$2,060/mo			
11	Medium-Large Side-by-Side Duplex	7,000 sq. ft.	1,810 sq. ft., 2 stories 3 beds, 2.5 baths 1 car garage plus driveway	\$428K - \$447K			
12	Small Side-by-Side Triplex	7,000 sq. ft.	1,147 sq. ft., 2 stories 2 beds, 2.5 baths 1 car garage, shared driveway	\$311K - \$318K			
13	Medium Side-by-Side Triplex	7,000 sq. ft.	1,427 sq. ft., 2 stories 3 beds, 2.5 baths 1 car garage, shared driveway	\$375K - \$391K			
14	Large Side-by-Side Fourplex	7,000 sq. ft.	2,034 sq. ft., 3 stories 4 beds, 3 baths 1 car garage, shared driveway	\$434K - \$462K			
15	Small Side-by-Side Fourplex	7,000 sq. ft.	1,019 sq. ft., 2 stories 2 beds, 2.5 baths 1 car garage, shared driveway	\$296K - \$303K			
16	Large Stacked Sixplex	7,000 sq. ft.	1,050 sq. ft. flat (rental) 3 beds, 2 baths 0.5 parking spaces per unit	\$1,650 - \$1,710/mo			

\* Unit sizes do not include garage floor area.

## Section 3. Assessing Development Potential

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### What Makes Development Possible?

Allowing new forms of residential development can increase (re)development potential, but new developments do not occur simply because they are allowed. There must be sufficient demand for new housing at a price point that exceeds the cost to build it. Further, the value of redevelopment would have to exceed the value of the existing properties if they are not vacant. Even for developers and real estate investors, in many cases, it is faster, easier, and less risky to remodel an existing home to sell at a profit than to redevelop with new housing types. New development is also more likely when a property is sold to a new owner—most homeowners do not have interest or expertise in redevelopment—and only a small fraction of properties is sold in any given year, which moderates the pace of change even when development is financially feasible.

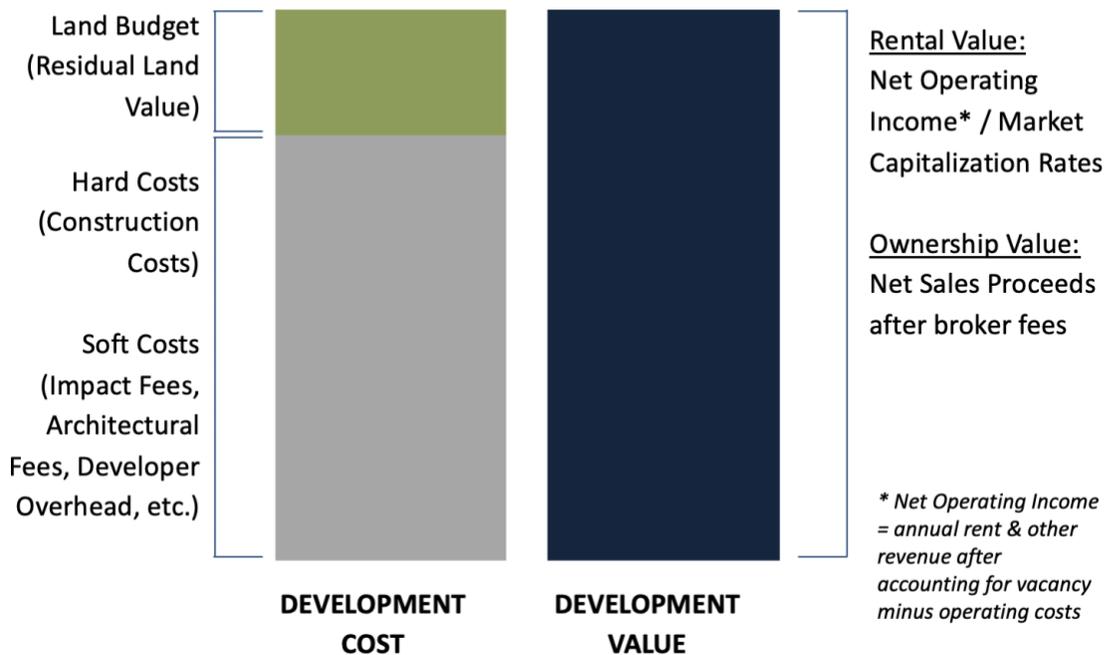
### Development Feasibility Methods

ECONorthwest used a financial pro forma model to estimate the development feasibility of various prototypes. More specifically, the analysis evaluated *residual land value* (RLV): the maximum a developer would be willing and able to pay for a property intended for (re)development after considering the value of the new development (based on sale proceeds or rental income), the cost of demolition (if required) and development, and the investment returns needed to secure financing for the project. Exhibit 5 provides a conceptual illustration of residual land value, showing that the first test is whether RLV is positive or negative. If RLV is negative, the development is not possible even if the land is free.

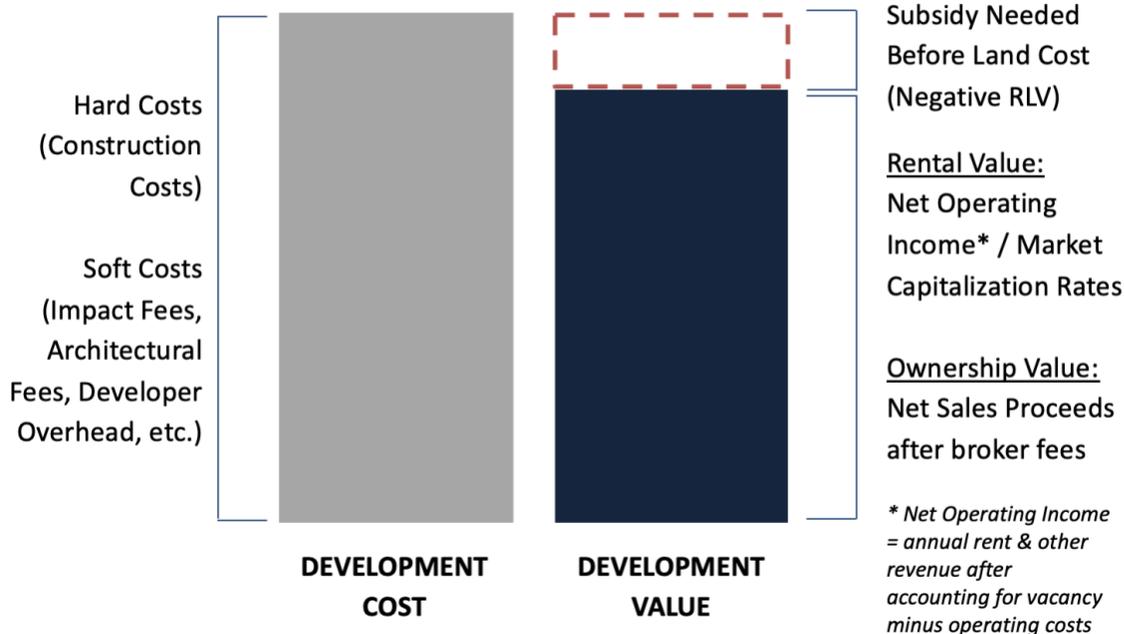
If RLV is positive, the second question is how it compares to the value of a property suitable for development. A prototype can be considered financially feasible for development on sites with market values (projected sales prices) that are lower than the prototype's RLV. This is illustrated in Exhibit 6. If the RLV exceeds the value of a site, then a developer can potentially reach a deal with the property owner if the property comes up for sale. If the RLV is lower than the value of a site, the project would not be financially feasible unless market conditions or investment return expectations change. Thus, a higher RLV indicates greater development feasibility, because there are more sites that the developer could afford to build on. In addition, for sites that are valued at less than the RLV, there is greater potential for the developer and property owner to reach a deal that would be financially attractive to both parties.

Exhibit 5: Illustration of Residual Land Value

**Development Example (feasible)**

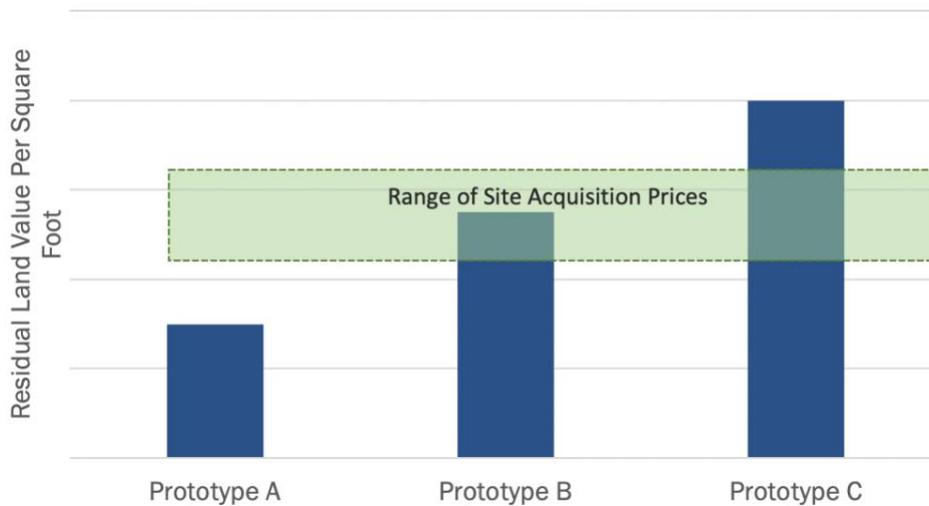


**Development Example (not feasible)**



**Exhibit 6: Example: Comparing Residual Land Value to Land / Property Pricing**

Source: ECONorthwest



As noted previously, RLV alone does not indicate that a property will redevelop, only that redevelopment could occur, if:

- The property owner decides to make the property available for sale and is willing to accept the estimated market value for the property.
- There is a developer with interest and ability to develop middle housing who is able to acquire the property for the estimated market value.
- The developer is operating as a for-profit business with standard financing mechanisms, financial return requirements, construction costs, and risk tolerance.<sup>11</sup>
- There is sufficient demand from buyers/renters to “absorb” the housing as it is developed (this will tend to limit the amount of housing built at any given time).

## Assumptions

### Cost Assumptions

Construction, design, financing, and other development costs (excluding City fees) were based on reasonable assumptions—informed by input from experienced middle housing developers and the Homebuilders Association of Metro Portland (HBA)—and capture relevant variations by unit size, finish quality, and configuration. The analysis also accounted for site costs (e.g., parking and landscaping).

<sup>11</sup> There are nonprofit developers and affordable housing providers interested in building middle housing, including Habitat for Humanity, Hacienda CDC, and others. These parties face different financial requirements to make development possible and generally depend on public funding to close the gap between costs and the revenue generated by renting or selling the property to the low or moderate-income households they serve. While the specifics of their developments are different, properties that are financially feasible to develop with market-rate, for-profit middle housing may also be more likely to offer potential for affordable middle housing.

The analysis accounts for all development fees (e.g., transportation development tax, system development charges, construction excise tax, permit fees). These were calculated for each prototype using City fee schedules and input from City staff. The total for development fees ranges from roughly \$26,000 to roughly \$37,000 per unit based on differences in unit size and configuration. Costs were higher for side-by-side units than for stacked units, largely due to the assumption of individual water meters to allow the units to be sold individually. (For comparison, a typical new single-family detached home might pay close to \$42,000 in SDCs and fees.)

All costs were held constant citywide; area-specific and site-specific costs such as supplemental System Development Charges, hillside development costs, or required frontage or infrastructure improvements were not accounted for in this analysis.

### Market Condition and Revenue Assumptions

Sales prices are based on average per-square-foot sales prices from sales transactions of similar-sized townhouses located in Beaverton and adjacent areas, built since 2005, and sold between May 2020 and May 2021.<sup>12</sup> Transaction data was obtained from Redfin. Estimated pricing was adjusted upward slightly to account for increasing prices in 2021. While the prototypes are not townhouses in the sense that they do not face the street, the recent state legislation that will allow them to be sold fee-simple on individual lots makes them more comparable to townhouses.

Rents are based on average rent per square foot of market-rate apartments built since 2010 by bedroom size for Beaverton and surrounding areas, along with specific rent observations for the most comparable properties. Average rents are from November 2020 CoStar data, with adjustments to account for increases in 2021 and fewer shared amenities for a small plex than a large apartment complex. Individual rent observations were used to make those adjustments.

The sales prices and rents were also adjusted to account for broad locational differences, using four geographies with different generalized market conditions in Beaverton (see Exhibit 7 on following page). The market geographies were selected to align with geographies the City is considering using to adjust development standards based on the development patterns of existing housing, which vary with the age of the existing housing stock.

The analysis does not account for site-specific location factors that can influence the desirability (and hence pricing) of housing, including:

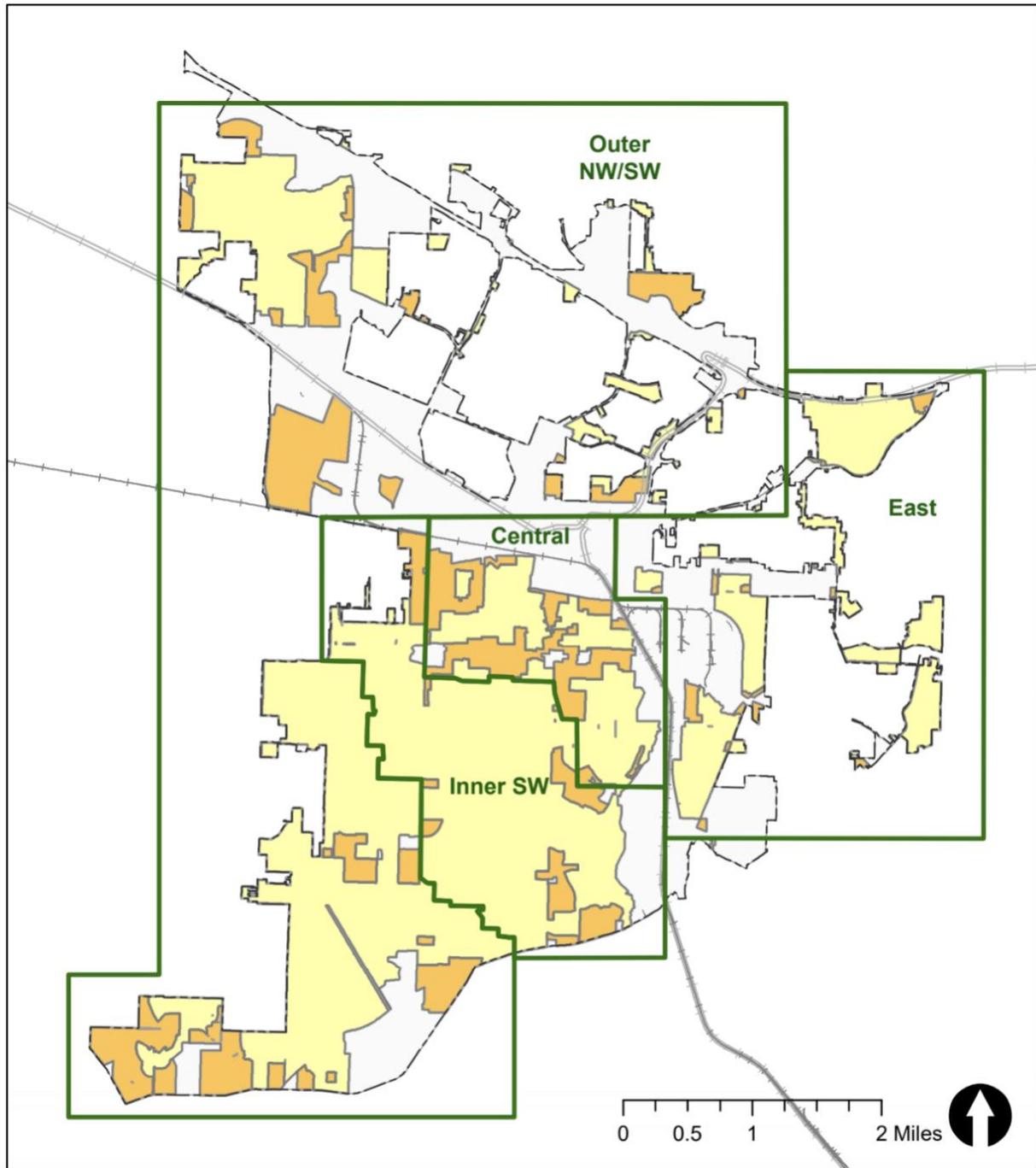
- Proximity/accessibility to parks, schools, transit, or other amenities
- Views
- Presence of mature street trees
- Exposure to busy streets, highways, and certain noisy or undesirable businesses

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<sup>12</sup> According to Zillow, Beaverton's home values have increased by 15.4% over the past year from April 2020 to May 2021.

**Exhibit 7: Market Geographies**

Source: City of Beaverton



-  Market Geographies
-  City Limits
-  Current Residential Zones (Multifamily)
-  Current Residential Zones (Single-family)
-  Non-residential Zones

## Financial Feasibility Evaluation

### Overall Feasibility Findings

The maximum RLV of any of the prototypes is estimated at approximately \$45 per square foot. There have been very few sales transactions in the past year in Beaverton where a lot with an existing home has sold for less than \$45 per square foot of land, particularly for smaller lot sizes. The lowest observed sales prices for lots with existing homes for each lot size are shown in Exhibit 8. This means that **very few sites with existing homes are likely to sell for amounts that would make duplex, triplex, fourplex, or sixplex redevelopment financially feasible.**

#### Exhibit 8: Lowest Observed Sales Prices per Square Foot of Land by Lot Size, City of Beaverton

Source: ECONorthwest

Lot Size	Average of Lowest Observed Sales Prices	Average of Lowest Observed Sales Price per Sq. Ft. of Land
3500-4999 sf	\$279,100	\$75
5000-6999 sf	\$306,250	\$52
7000-9999 sf	\$300,800	\$37

Source: ECONorthwest, using sales transaction data from Redfin for homes sold in the last 12 months as of June 30, 2021. Excludes transactions with sale prices well below the estimated value from Redfin. Values shown are an average of the three to six lowest-price transactions deemed reliable for this purpose in the City of Beaverton. These homes are not necessarily located within the zones in question, but are roughly indicative of the lowest site-acquisition costs a developer might have within Beaverton.

Overall, middle housing redevelopment (for the prototypes tested) is unlikely on most developed lots, particularly smaller lots. However, development on vacant infill sites and larger properties where a portion of the site can be sold for development without demolishing the existing home may still be feasible.

### Variations by Alternative and Geography: Overview

Exhibit 9 summarizes the results of the financial feasibility evaluation across all 16 prototypes, with notes about how they compare to one another, along with a simplified indication of which are considered consistent with which zoning alternatives. Following Exhibit 9 are summaries and charts for each alternative. The charts show RLV (maximum land cost) per square foot of land for each market area and each prototype, as well as a comparison to the lowest observed sales prices listed in Exhibit 8.

Comparing feasibility between alternatives, Alternative 1 allows more prototypes that are comparatively more financially feasible, while Alternatives 2 and 3 restrict many of the prototypes that appear to be more financially feasible.

Looking at how feasibility varies geographically within the city across all alternatives based on estimated market variations, Central Beaverton has higher rents and RLVs for rental prototypes, while the East and Outer NW/SW subareas have the highest sales prices and highest RLVs for for-sale prototypes. However, the differences in RLVs are relatively small, and the differences in typical home prices in these areas may be greater than the difference in RLV.

Exhibit 9: Prototype Feasibility Results Summary and Notes

Source: ECONorthwest

Lot Size	Housing Type	Proto-type #	Unit Type	Allowed by Standards?			RLV per sq. ft.				Notes
				Alt 1	Alt 2	Alt 3	East	Central	Inner SW	Outer NW/SW	
3500 sf lot	Duplex	1	2BR Rowhouse	Y	S	S	\$ 15.21	\$ 13.91	\$ 12.61	\$ 13.91	Constrained unit size reduces feasibility relative to Prototype 2, but small lot size means that RLV is still comparatively high on a per square foot basis.
		2	Med. 3BR Rowhouse	Y	N	S	\$ 31.16	\$ 26.15	\$ 24.48	\$ 27.82	Larger unit size improves feasibility relative to Prototype 1. Small lot size means comparatively high RLV per square foot.
	Triplex	3	2BR Stacked	Y	N	S	\$ 14.03	\$ 17.33	\$ 12.38	\$ 15.68	Three medium-sized rental units are not as feasible as two medium-sized for-sale units (Prototype 2).
	Sixplex	4	3BR Stacked	Y	N	N	\$ 30.58	\$ 37.36	\$ 27.20	\$ 33.97	Six large units provide a large amount of value on a small property, comparable to two medium-sized for-sale units (Prototype 2).
5000 sf lot	Duplex	5	Lg. 3BR Rowhouse	Y	N	Y	\$ 23.86	\$ 19.99	\$ 18.71	\$ 21.28	Larger unit size improves feasibility, but only slightly relative to the medium unit size for Prototype 6.
		6	Med. 3BR Rowhouse	Y	S	Y	\$ 20.09	\$ 16.64	\$ 15.49	\$ 17.79	Similar unit sizes and financials as Prototype 2 but on a larger lot means a lower RLV per square foot of land.
	Triplex	7	2BR Rowhouse	Y	N	N	\$ 32.79	\$ 31.17	\$ 29.55	\$ 31.17	Three for-sale units on 5,000 sq. ft. generates a relatively high RLV per square foot of land, even though units are relatively small for for-sale.
		8	3BR Stacked	Y	S	N	\$ 9.18	\$ 11.78	\$ 7.88	\$ 10.48	Three stacked rental units are not as financially feasible as three for-sale units on the same size lot (Prototype 7).
	Fourplex	9	2BR Stacked	Y	S	S	\$ 15.96	\$ 18.96	\$ 14.45	\$ 17.46	Four stacked rental units are more feasible than three stacked rental units (Prototype 8), even though the unit size is slightly smaller.
	Sixplex	10	3BR Stacked	Y	N	N	\$ 39.15	\$ 45.00	\$ 36.22	\$ 42.07	Six large units provide a large amount of rental income relative to the lot size, if they can achieve the assumed rents.*
7000 sf lot	Duplex	11	Lg. 3BR Rowhouse	Y	Y	Y	\$ 16.16	\$ 13.42	\$ 12.51	\$ 14.33	On a 7,000 sq. ft. lot, with just two units, even large for-sale rowhouse-style units generate only moderate RLV per sq. ft. of land.
	Triplex	12	2BR Rowhouse	Y	Y	Y	\$ 11.45	\$ 10.46	\$ 9.48	\$ 10.46	Constrained unit size reduces feasibility relative to Prototype 13. Adding a third unit does not improve feasibility relative to two larger units (Prototype 11).
		13	Med. 3BR Rowhouse	Y	N	Y	\$ 19.21	\$ 15.61	\$ 14.42	\$ 16.81	Larger unit size improves feasibility relative to Prototype 12, and is large enough that adding the third unit improves feasibility relative to two units (Prototype 11).
	Fourplex	14	4BR Rowhouse	Y	N	N	\$ 13.84	\$ 4.48	\$ 2.61	\$ 8.23	Unit size is so large that the increase in costs outweighs the increase in sales price relative to Prototype 15, particularly in areas with moderate home prices.**
		15	2BR Rowhouse	Y	S	Y	\$ 16.09	\$ 14.84	\$ 13.59	\$ 14.84	More feasible than three units of the same size (Prototype 12), but less so than three larger units (Prototype 13).
	Sixplex	16	3BR Stacked	Y	Y	N	\$ 12.50	\$ 15.96	\$ 10.77	\$ 14.24	Six large rental units are comparable to fewer small ownership units (e.g., Prototype 12), but not as feasible as larger ownership units (e.g. Prototype 13).

Y = This prototype does work with the development standards for that alternative based on lot size, housing type, parking requirements, floor area ratio, and/or setbacks;

N = This prototype does not work with the development standards for that alternative based on lot size, housing type, parking requirements, floor area ratio, and/or setbacks;

S = This prototype sometimes works with the development standards for that alternative based on lot size, housing type, parking requirements, floor area ratio, and/or setbacks (i.e., some of the specific zones for the alternative allow the prototype, but others would not).

\* The 1,400 sq. ft. units are unusually large for an apartment-style flat—typically, there would be just a few of these units in a large development. While they sometimes command a premium in the apartment market, it is difficult to say how much of that premium will extend to middle housing that would not have amenities like a pool and a fitness center. In addition, having all six units this size would likely result in a slower lease-up since it would limit the pool of interested households.

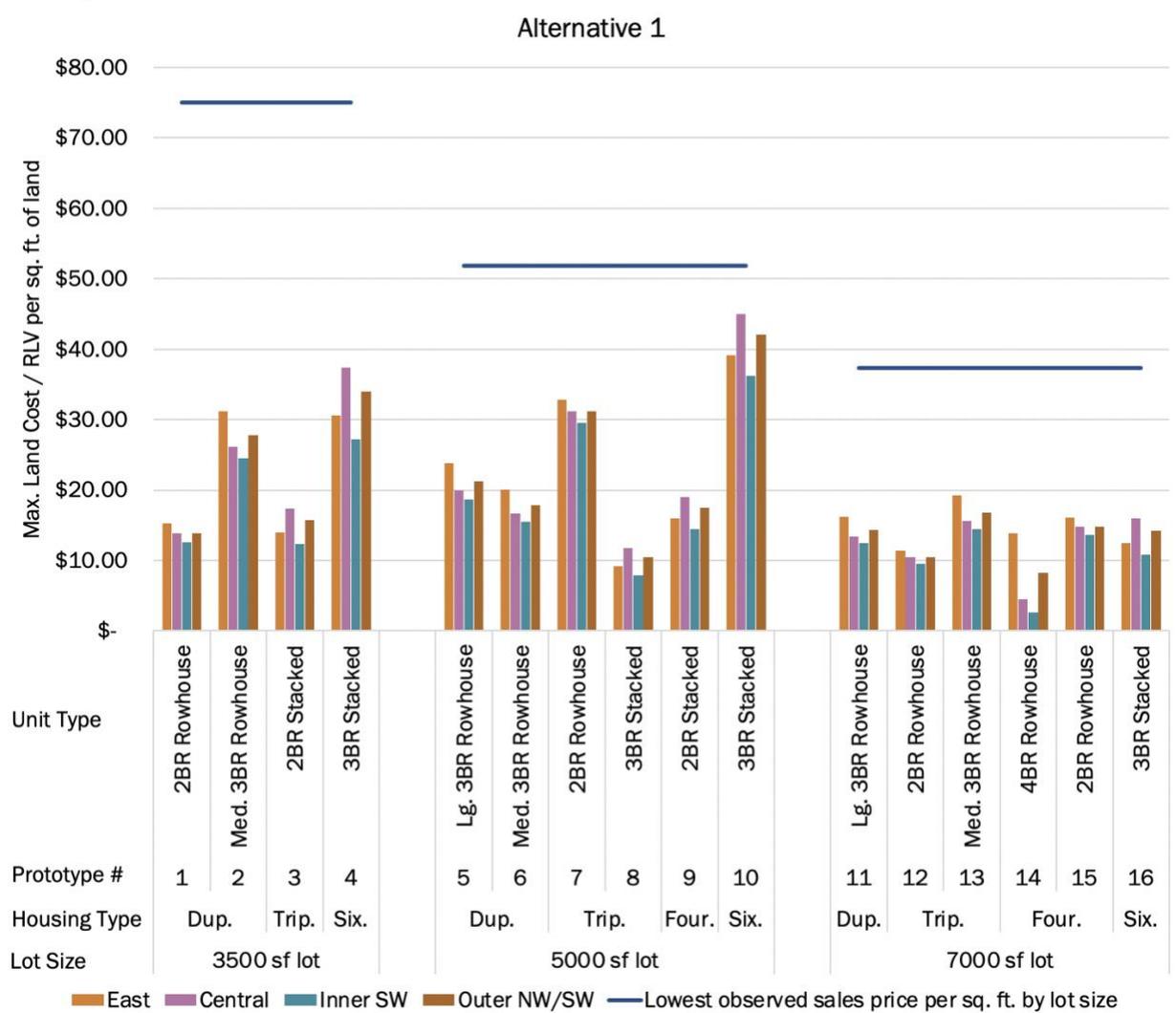
\*\* Home values for larger, higher-end units tend to be more dependent on premium locations. This prototype would likely have performed better financially with somewhat smaller units (e.g., large 3-bedroom units) that would be more in line with common unit sizes for attached housing, but that option would be available to developers as well.

Alternative 1

Exhibit 10 shows the range of RLVs for prototypes that are allowed in Alternative 1. Alternative 1 allows the broadest range of prototypes with the fewest constraints, which leads to several prototypes that show the highest financial feasibility of the set tested (though all are still well below a level that would be feasible for redevelopment). Given that Alternative 1 allows a generous building envelope and flexible parking requirements, it offers relatively high development feasibility on smaller lots where these constraints are particularly salient. On larger, 7000 square foot lots, the incremental increase in the number and size of units does not appear to quite make up for the increase in lot size when comparing RLV per square foot.

**Exhibit 10: Maximum Land Cost / RLV per Sq. Ft. by Prototype, Alternative 1**

Source: ECONorthwest

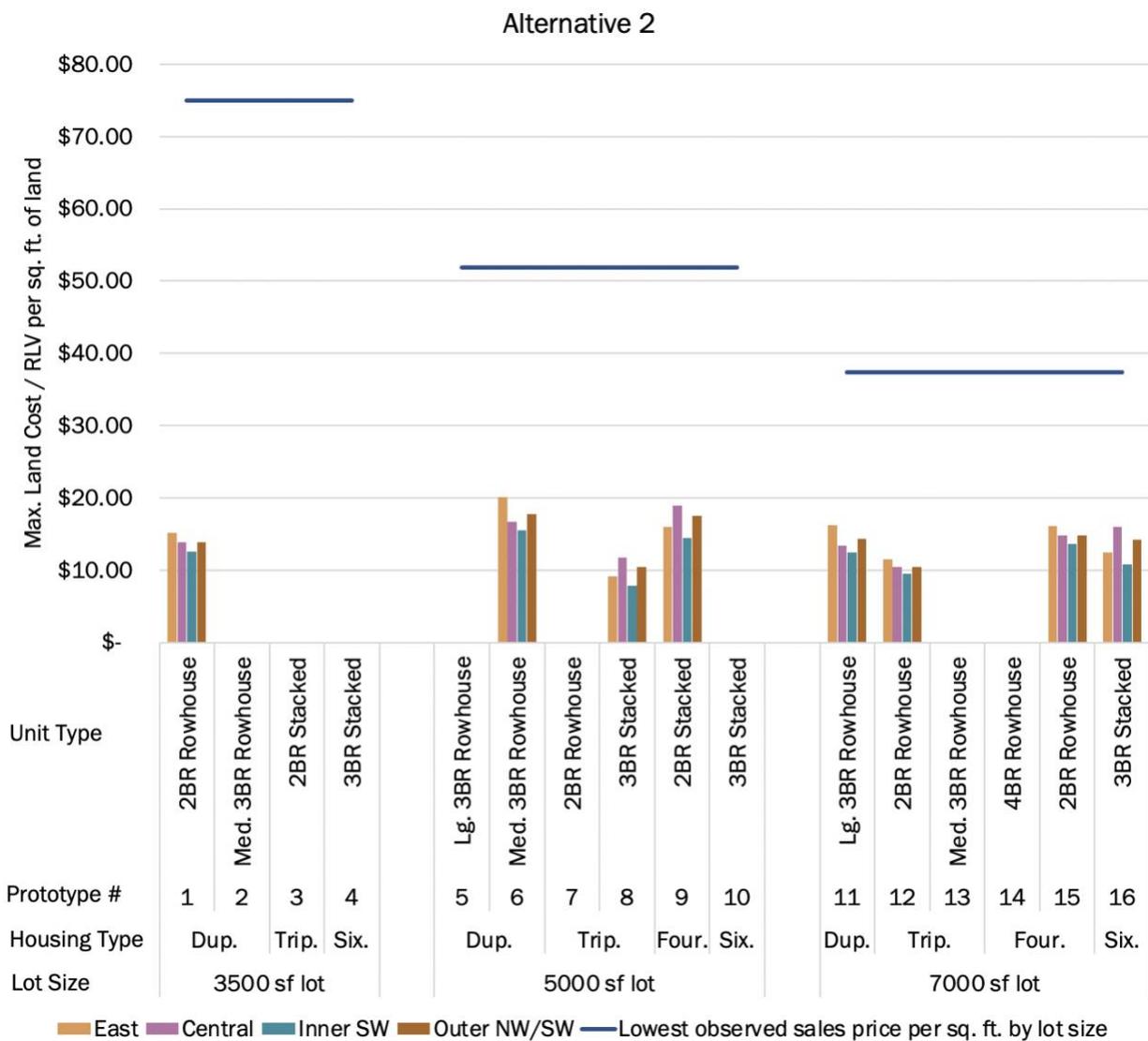


## Alternative 2

Alternative 2 does not allow some of the prototypes shown for Alternative 1; these are shown as blanks to make comparison between alternatives easier. Prototypes evaluated under Alternative 2 are generally less feasible than those in Alternative 1 and Alternative 3 because of the floor area ratios that scale the amount of development allowed with the lot size, and tend to limit this alternative to smaller unit types or fewer units. The open space requirements for Alternative 2 had little impact on the prototypes, since they could generally be met with the required setback areas. Parking requirements were also generally not a major obstacle, given that it was possible and likely desirable to include at least some on-site parking for most of the prototypes evaluated.

**Exhibit 11: Maximum Land Cost / RLV by Prototype, Alternative 2**

Source: ECONorthwest

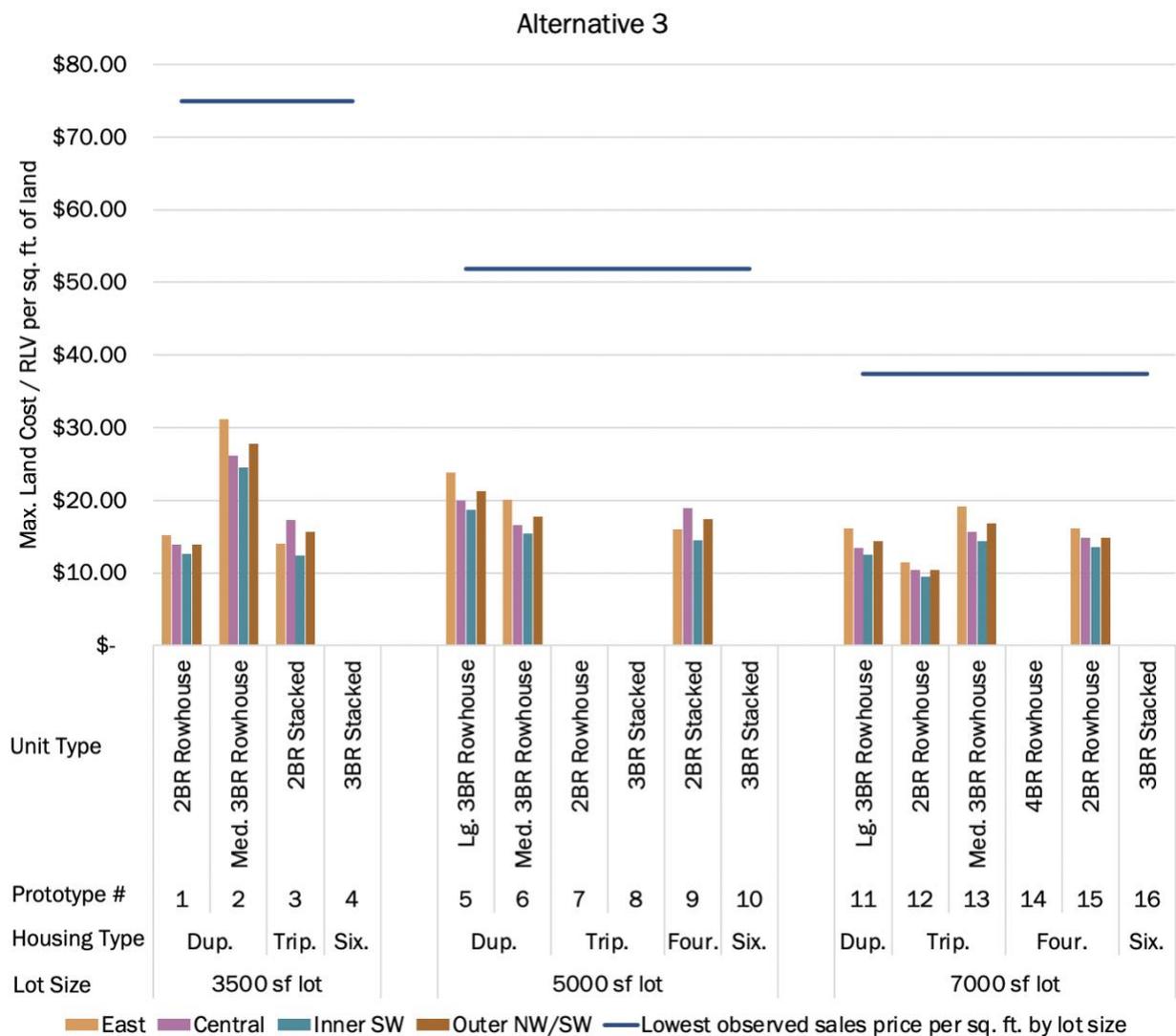


### Alternative 3

Alternative 3 does not allow some of the prototypes shown for Alternative 1; these are shown as blanks to make comparison between alternatives easier. Prototypes evaluated under Alternative 3 are generally less feasible than those in Alternative 1, but somewhat more feasible than those in Alternative 2. Alternative 3 allows for fewer of the stacked, rental prototypes, in part due to challenges with accommodating parking, and in part because sixplexes were not allowed on smaller lots. In addition, the height limitation creates challenges for triplex and sixplex stacked prototypes. The floor area ratios in Alternative 3 were high enough compared to those in Alternative 2 to allow for reasonable unit sizes in most cases, and often aligned well with the range that is common in the market. The open space requirement did not constrain the prototypes, because it could be met with required setback areas.

**Exhibit 12: Maximum Land Cost / RLV by Prototype, Alternative 3**

Source: ECONorthwest



## Section 4. Affordability and Racial Equity Evaluation

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This section summarizes how middle housing can contribute to housing affordability in Beaverton and addresses how the zoning alternatives advance racial equity by evaluating the following questions (identified by City of Beaverton staff):

1. Which scenario best supports development of low-cost rental units?
2. Which scenario best supports development of attainable home ownership opportunities (to build wealth)?
3. Which scenario best supports development of family-friendly options (units with at least two bedrooms)?
4. Which scenario best supports development of intergenerational housing?

### Middle Housing Affordability

#### Overview

In desirable locations with limited opportunities to build more housing, the price of existing homes can increase substantially over time as demand outpaces supply. This competition leads to increasing housing costs, pricing many households out of the housing market altogether. A shortage of available, modestly priced housing can threaten to displace longtime residents as more affluent households pay a premium for homes that would traditionally be occupied by lower-income families. Allowing more housing to be built in these areas may reduce the pace of price increases, keeping existing housing more affordable over time.

Although state law prohibits regulations that “[establish] the sales or rental price for a housing unit” for developments with less than 20 units,<sup>13</sup> middle housing development can help increase the supply of housing that is more affordable than a standard single-family home. Middle housing units are generally smaller in size, making them less expensive to build than larger detached homes. Middle housing on smaller lots may also allow for lower land costs compared to the current stock of detached single-family homes.

Middle housing contributes to housing affordability in several other ways as well:

- Some affordable housing providers (such as Habitat for Humanity, which focuses on affordable homeownership) may choose to develop middle housing.

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<sup>13</sup> ORS 197.309

- Allowing middle housing creates an opportunity to make other affordability measures, including mortgage and rental assistance programs, go farther by expanding the supply of lower-cost for-sale homes in good condition.

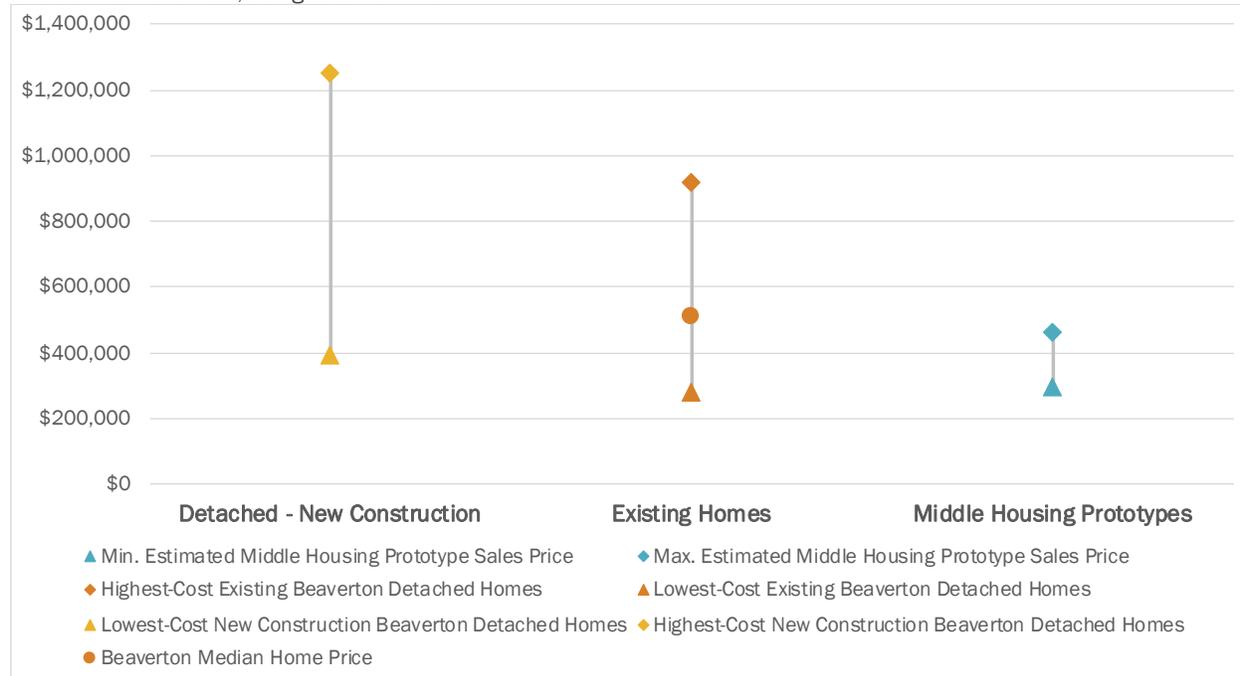
However, it is important to acknowledge that middle housing alone will not solve affordability or housing equity issues—even the lower sales prices that are possible compared to new detached housing are still too high to be affordable to many households. Furthermore, first-time homebuyers face other challenges to buying a home, including saving for a down payment, meeting mortgage requirements (e.g., income requirements, credit history), and competing with buyers able to pay with cash.

### Affordability of Estimated Rents and Sales Prices for Middle Housing Prototypes

The estimated sales prices for for-sale middle housing prototypes range from just under \$300,000 to just over \$460,000 depending on the prototype and the market area. This is below Beaverton’s median home price of roughly \$510,000.<sup>14</sup> Detached homes in Beaverton (excluding new construction) sold in the past year have sold for between \$279,000 (very few in this price range, and many in need of maintenance) and roughly \$920,000. For detached new construction in Beaverton, the range is roughly from \$395,000 to over \$1 million. This is illustrated in Exhibit 13. This suggests that if middle housing is financially feasible to develop, it will expand attainable home-ownership opportunities in Beaverton.

### Exhibit 13: Pricing of Middle Housing Compared to Existing Homes and Detached New Construction in Beaverton

Source: ECONorthwest, using data from Redfin.

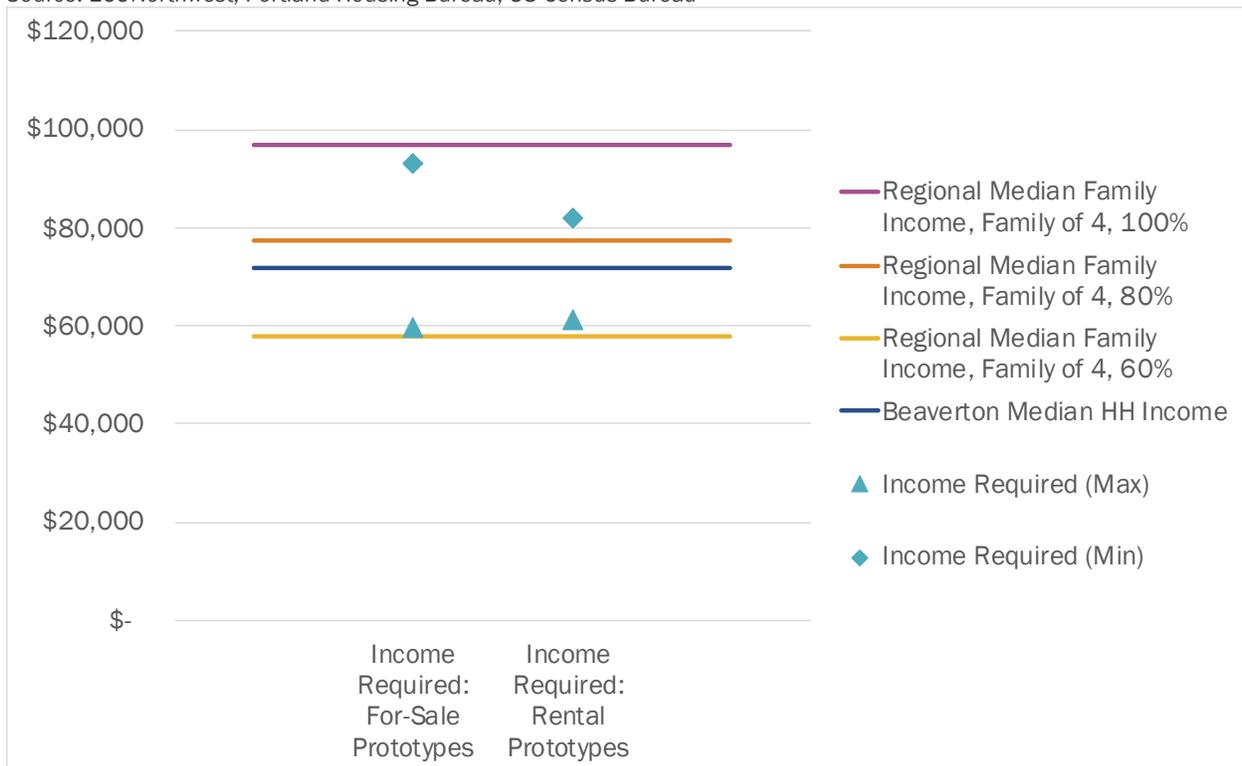


<sup>14</sup> Redfin.com, “Beaverton Housing Market,” May 2021.

As shown in Exhibit 14, the approximate income required to meet a 30% affordability threshold<sup>15</sup> for the for-sale middle housing prototypes tested would be roughly \$60,000 to \$93,000 per year. For a family of four, this would translate to between about 60% and 100% of the regional Median Family Income (MFI) that is used to establish eligibility for housing programs.<sup>16</sup> (Beaverton’s median household income—which is calculated differently from MFI—is roughly \$71,800.<sup>17</sup>) For rental housing prototypes, the estimated rent would be affordable to households earning between about \$61,000 and \$82,000 using the standard of spending no more than 30% of income on rent. For a family of four, this would translate to households between roughly 60% and 80% of MFI.

**Exhibit 14: Affordability Ranges of Middle Housing Prototypes**

Source: ECONorthwest, Portland Housing Bureau, US Census Bureau



<sup>15</sup> Income required for for-sale housing is estimated based on the following assumptions:

- 20% down payment, 30-year fixed rate mortgage
- 3.02% interest rate (source: Freddie Mac Primary Mortgage Market Survey, June 24, 2021: <http://www.freddiemac.com/pmms/>)
- 2% of property value annually for insurance and property taxes
- Principal, interest, taxes, and insurance combined cost no more than 30% of income

<sup>16</sup> Portland Housing Bureau, 2021 Income and Rent Limits, <https://www.portland.gov/sites/default/files/2021/2021-ami-rents-phb.pdf>

<sup>17</sup> U.S. Census Bureau, American Community Survey (ACS), 5-Year Estimates, 2015-2019.

## Racial Equity Considerations

### Low-Cost Rental Units

Alternative 1 best supports development of low-cost rental units by allowing sixplex development on a range of lot sizes and providing flexibility for stacked units and how much parking to provide on-site.

### Attainable Home Ownership Opportunities

The 2-bedroom rowhouses are the lowest cost prototypes that are assumed to be developed for homeownership (Prototypes 1, 7, 12, and 15). Alternative 1 allows all these prototypes, but they are not always the most feasible prototype for a given lot size (if a different prototype is more feasible on the same size lot, it may be more likely to get built). Alternative 2 allows prototype 12 and sometimes allows prototypes 1 and 15, but they face somewhat less competition from other, more feasible prototypes on the same lot sizes. Alternative 3 allows prototypes 12 and 15 and sometimes prototype 1, but these are not the most feasible prototypes for their lot sizes. On balance, Alternative 1 offers the most options for lower-cost rowhouse-style units that lend themselves better to home ownership.

### Family-Friendly Options

All of the alternatives allow for many prototypes with at least two bedrooms. Alternative 1 offers the most flexibility for larger units if desired, though the larger units also tend to be more expensive.

### Intergenerational Housing

Duplexes are particularly well-suited to intergenerational housing because a family can buy both units and live in the same building but with separate spaces. However, this requires the family to be able to pool enough resources to afford to buy both units together. Triplexes and larger properties are more likely to be out of reach financially than duplexes, particularly for families of modest means. Alternative 1 best supports duplex feasibility, but all alternatives provide some options for duplexes.

Three- and four-bedroom units can also support inter-generational housing by offering enough space for grandparents or other family members to have their own bedroom. These also tend to be more expensive than smaller units, but less so than buying two units together. All alternatives provide options for three- and four-bedroom units, but Alternative 1 (and, to a lesser extent, Alternative 3) provides the most options for these larger units.

## Section 5. Displacement Risk Analysis

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### Who is at Risk of Displacement?

Another important equity consideration is displacement risk, primarily for renters in existing single-family homes that could be redeveloped. Displacement concerns typically center around renters instead of homeowners<sup>18</sup> for several reasons:

- In Oregon, homeowners are largely insulated from the financial effects of market changes due to the property taxation system, which decouples market sales prices from assessed values, meaning that rising home values only impact property tax amounts in very limited circumstances.
- Rental leases provide renters with less housing stability and cost predictability compared to typical mortgages. Generally, renters only have the right to remain in a given location for the duration of their lease, and shorter leases can be relatively easily broken (although recent laws enacted in 2019 strengthen renter and lease protections).<sup>19</sup> While new state laws have limited the amount a landlord can raise rents annually for certain types of properties, these increases can still reach about 10 percent per year.<sup>20</sup>
- Renters are not in control of decision-making about the property: the property owner is the one who decides whether to upgrade the property, redevelop it, or make other changes that would affect the rent and the tenants. Property owners must give notice to tenants before requiring them to leave and often must provide a relocation assistance payment, but renters cannot prevent those changes from happening.
- Renters may have legitimate concerns about their ability to locate and secure new housing that they can afford and that meets their households' needs—especially within the 30 to 90 days they may have to move. If a tenant can't find a comparable unit, they may be forced to pay more than they can afford (leaving limited budget for food and other necessities) or accept a unit that doesn't meet their needs as well. In some cases—particularly if a resident has disabilities—this can be a significant challenge.
- Because renters typically have lower incomes than homeowners, the financial impact of a rent increase can be more challenging for households to absorb.

For these reasons (and many others), governments and mission-oriented community organizations focus anti-displacement efforts on renters, particularly low-income renters.

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<sup>18</sup> Residents of manufactured home parks, who own their unit but rent the land, are more similar to renters than homeowners in terms of vulnerability to displacement.

<sup>19</sup> Senate Bill 608, enacted in 2019, prohibits landlords from terminating a lease for “no cause” after one year of tenancy, extends the written notice for lease termination in other circumstances to ninety days, and makes several other changes to state laws strengthening renter protections.

<sup>20</sup> Senate Bill 608 also caps rent increases for properties built more than fifteen years ago, to a maximum of 7 percent per year plus Consumer Price Index.

For HB 2001 implementation, the primary displacement risk is from the redevelopment of existing single-family rental housing to build new middle housing. Single-family rental housing that is older and relatively low value compared to the land area tends to have the highest risk of redevelopment that could lead to displacement.

## Approach

ECONorthwest identified relevant parcels in zones subject to HB2001. Only single-family housing<sup>21</sup> was included to avoid institutional and other non-residential uses (existing multifamily is unlikely to redevelop with middle housing). Rental housing was identified based on address data from the tax assessor; lots where the owner address and site address do not match were flagged as likely rentals, except where the listed owner is a trust of some sort. Properties with \$0 of total property value (which are typically either unbuildable or vacant platted lots that have not yet been assessed), land owned by homeowners' associations, properties owned by public agencies, and properties owned by homebuilders (which are likely vacant and have not yet sold) were excluded. Only lots that are 3,500 sq. ft. to 9,000 sq. ft. were included, since this is the range that our analysis is applicable to and a common range of sizes for developed lots. ECONorthwest's work in other nearby jurisdictions suggests that larger lots may be more likely to redevelop,<sup>22</sup> but this would result in larger developments than those analyzed here and would generate a greater number of new units relative to the units lost.

For the identified set of likely rental properties, ECONorthwest compared estimated property value<sup>23</sup> per square foot of land to the range of residual land value (maximum land budget) per square foot of land for the prototypes to evaluate likelihood of redevelopment, using the following criteria:

- Less than \$20 per sq. ft.: Likely redevelopable (many prototypes could afford to redevelop the property)
- \$20-30 per sq. ft.: Possibly redevelopable (several prototypes could afford to redevelop the property)
- \$30-40 per sq. ft.: Rarely redevelopable (few prototypes could afford to redevelop the property)

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<sup>21</sup> For this analysis, single-family housing was identified based on the tax assessor's property type codes (101: Residential land, improved). This code can sometimes be used for duplexes but excludes multifamily and condominium property.

<sup>22</sup> See, for example, ECONorthwest's "House Bill 2001 Implementation Economic Analysis and Market Research: Findings and Recommendations", prepared for Washington County, June 1, 2021.

<sup>23</sup> Because recent sales prices are not available for most properties, and ECONorthwest has observed that the assessor's real market value (RMV) tends to be lower than sale price, the RMV (total for land and improvements) is adjusted to estimate the actual property value (projected sale price). The adjustment factor is based on the observed average difference between RMV and sales price—across a sample of recent sales transactions for detached homes in Beaverton (excluding new construction), the sale price was roughly 30% higher than the RMV on average.

- \$40-50 per sq. ft.: Unlikely redevelopable (only redevelopable with the highest RLV prototype in the highest rent/price market areas)
- \$50 per sq. ft. and up: Highly unlikely redevelopable (none of the prototypes tested could afford to redevelop the property)

## Results

There are very few of the likely single-family rental properties that fall into categories where redevelopment is likely, or even in the range from unlikely to possibly redevelopable. (This is consistent with the previous finding that there have been very few homes sold in Beaverton in the past year on lots under 9,000 sq. ft. for less than \$40 per sq. ft. of land, and these have mostly been lots over 7,000 sq. ft. with homes valued around \$300,000.) These few properties are in Central Beaverton and inner Southwest Beaverton. The estimated number of properties in each category by market area is summarized in Exhibit 15. The approximate locations and spatial distribution of properties identified as likely rentals and their redevelopment potential are shown on Exhibit 16.

**Exhibit 15: Estimated Number of Single-Family Rental Properties and Redevelopment Potential by Market Area**

Source: ECONorthwest

Market Area	Likely Redevelopable	Possibly Redevelopable	Rarely Redevelopable	Unlikely to Redevelop	Highly Unlikely to Redevelop
Central		2	1	13	102
East				4	71
Inner SW	3		1	5	389
Outer NW/SW				10	612
Total	3	2	2	32	1,174

**Exhibit 16: Approximate Locations of Likely Single-Family Rental Properties by Redevelopment Potential**

Source: ECONorthwest

