MEMORANDUM

# Best Practices and Alternatives Report

## Beaverton Housing Options Project (HOP)

| | |
|---|---|
| DATE | April 18, 2019 |
| TO | Rob Zoeller and Cassera Phipps, City of Beaverton |
| FROM | Matt Hastie and Jamin Kimmell, Angelo Planning Group |
| CC | File |

The purpose of this report is to identify best practices and alternative options for the City of Beaverton to allow for a wider variety of housing types in residential zones as part of the Housing Options Project (HOP). The project team identified six issue areas for further research into best practices and alternatives. These issues are:

1. Accessory Dwelling Unit (ADU) Requirements
2. Density and Development Standards
3. Building Scale and Form
4. Building Design and Orientation
5. Neighborhood Patterns
6. Tree Planting and Preservation

These issues are addressed in this order in the report. Issues #2 and #3 are combined in one section as many of the best practices for addressing these issues are closely related. In each section below, the issue is described, and related best practices and alternative approaches are identified. Examples from other cities are highlighted to illustrate the approaches in some cases.

## 1. ADU REQUIREMENTS

### Issue and Opportunity

**Issue:** In addition to meeting base zone development standards, ADUs also are currently required to comply with several specific requirements and standards found in the city's Development Code. These standards, including the requirement for one dedicated off-street parking space, the requirements for the ADU to match the style of the main house, and the limitation on the size of the ADU to be 50% or less of the main house size, could present a barrier to more widespread

development of ADUs. Additionally, some base zone requirements, such as yard setbacks, may present barriers for ADU development.

**Opportunity:** Development Code standards can be amended to remove barriers to ADU development while continuing to meet the overall intent of the residential zones. The standards can be modified to better address the multiple types of ADUs that can be developed (attached, detached, internal conversion) and the variety of existing conditions (lot sizes and shapes, house styles and sizes) on properties where ADUs are developed.

## Best Practices and Alternatives

### Definition of an ADU

The city does not currently have a definition of an ADU. The definition of an ADU can be inferred by the definition of an *Accessory Structure or Use* and the definition of a *Dwelling Unit*. See below for the definitions of these terms:

> ***Accessory Structure or Use.*** *A structure or use incidental, appropriate, and subordinate to the main structure or use.*
>
> ***Dwelling Unit.*** *One or more rooms used or intended to be used by one family containing, at a minimum, the living facilities required by the current Oregon Structural Code or applicable ordinance.*

Closely related is the city's definition of Guest House:

> ***Guest House.*** *An accessory building used for the purpose of providing temporary living accommodations, and containing no kitchen facilities.*

An ADU is a type of dwelling unit. Unlike a guest house, an ADU is intended for permanent accommodations. The key provision in the definition of a Dwelling Unit is that the unit must contain "living facilities" as required by the state building code. The city has published some guidance on how to differentiate between an ADU and living space that is added to the primary dwelling unit in a brochure.[1] There are generally two key criteria:

1. The unit must include *permanent provisions for living, sleeping, eating, and cooking*, as defined by the Oregon Residential Specialty Code.
2. The unit must be separate from the primary dwelling unit (cannot have inter-communicating doors or openings). The ADU must have a separate exterior entrance or a common internal area accessible to the outside.

[1] Available at: https://www.beavertonoregon.gov/DocumentCenter/View/20534/Accessory-Dwelling-Units-Code-Considerations?bidId=

Many cities rely on building code provisions to specifically define an ADU. The two examples below from Portland and Oregon City are typical ADU definitions.

- **City of Portland:** Accessory Dwelling Unit. A second dwelling unit created on a lot with a house, attached house, or manufactured home. The second unit is created auxiliary to, and is always smaller than the house, attached house, or manufactured home. The unit includes its own independent living facilities including provision for sleeping, cooking, and sanitation, and is designed for residential occupancy by one or more people, independent of the primary dwelling unit. Kitchen facilities for cooking in the unit are described in Section 29.30.160 of Title 29, Property and Maintenance Regulations. The unit may have a separate exterior entrance or an entrance to an internal common area accessible to the outside.
- **City of Oregon City:** "Accessory Dwelling Unit" (ADU) means a residential dwelling unit located on the same lot as a single-family dwelling, that is not a recreational vehicle. The habitable living unit provides basic living requirements including permanent cooking, and toilet facilities and may be either attached to the same building as the single-family dwelling unit or in a detached building.

The city's current approach (to leave ADUs undefined) could result in the following challenges:

1. The lack of a separate definition for an ADU requires that users infer the definition from the definition of two other terms, which may be confusing. Providing a specific definition for an ADU could make the code more user friendly.
2. Referring to the building code for the specific standards that define a "dwelling unit" can also make the code difficult to use. At the same time, the specific provisions that differentiate an ADU from additional living space within the primary dwelling can be technical and complex and may not be appropriate for the development code.
3. There may be a concern that some property owners may attempt to avoid ADU regulations by proposing a "guest house" or "guest suite" that may be able to function as a separate dwelling and be rented for long-term use, but would not meet the building code definition of an accessory dwelling unit. The City currently allows for a guest house if it does not include "kitchen space or cooking facilities". It may be relatively easy to meet this standard are the time of permitting, and then modify the unit to create cooking facilities.

The first two challenges identified above relate to the clarity and user-friendliness of the development code. The third challenge relates to a development outcome that may be undesirable and could be addressed by amending the definition of an ADU or by regulating detached ADUs and guest houses in a similar manner; thus, removing any motivation an applicant might have to define a structure as a guest house in order to avoid the ADU regulations. The following options have been developed to address these issues:

- **Option 1: Maintain current definitions.** If the issues identified above are not seen as a priority to address, then the current definitions do not need to be amended. The inferred

definition would remain that an accessory dwelling unit is simply a dwelling unit that also meets the definition of accessory structure or use.

- **Option 2: Create a new definition of an ADU that combines existing definitions.** Under this option, the city would define an ADU as a separate term from "Accessory Structure or Use" and "Dwelling Unit". The definition would be consistent with the existing, inferred definition of an ADU. For example, it may read as "A second dwelling unit created on a lot with a single family detached house which is auxiliary to and is always smaller than the house". This option would make the code easier to use by providing a separate definition, but would not address issues #2 and #3, above, because the new definition would still eventually a cross-reference the building code provisions by using the existing, defined term "dwelling unit".

- **Option 3: Create a new definition of an ADU that <u>incorporates</u> building code provisions.** Under this option, the city would define ADU as a separate term and would incorporate specific standards or provisions into the definition which specifically distinguish an ADU from an addition of living space. This option would address issues #1 and #2, above, by creating a separate definition that includes building code provisions, so users do not need to cross-reference the building code. This option would not address issue #3 as the intent is to maintain the same definition as applied through the building code, but to integrate the definition into the development code.

  It should be noted this option would create a definition for an ADU that is not consistent with the definition used for other types of dwelling units, such as a dwelling unit in a duplex or apartment building. This could result in some internal inconsistencies in the development code that would need to be evaluated and addressed.

- **Option 4: Expand the definition of an ADU to include living spaces that could function as a long-term rental unit without meeting the building code definition of a dwelling unit.** Under this option, the city would expand the definition of an ADU beyond the current definition as applied through the building code. The intent of this option would be to write a definition that would result in some "guest suite" or "guest house" being defined as an ADU, and therefore would be subject to ADU standards. The definition must be carefully designed in order to only include those spaces which may be functionally equivalent to an ADU but do not meet the building code definition of an ADU or dwelling unit. For example, the definition could list the following as the features that are required for the space to be considered an ADU:

  - The ability to secure the dwelling unit from access by non-occupants;
  - Access to the exterior of the building that does not require the occupant to pass through another dwelling unit (separate entrance or shared entrance with common hallway, vestibule, etc.);
  - An enclosed bathroom with a toilet, sink, and either a shower or bathtub that is solely for the use of the occupants;

  - A food preparation area with a sink that is separate from the bathroom and is solely for the use of the occupants; and
  - At least one habitable room with not less than 120 square feet of floor area. The floor area occupied by storage, bathrooms, cabinets, closets, appliances, and structural features is not included in calculating the net floor area.

  These features would allow a "guest suite" space that has some kitchen elements to function like an ADU, but a space that includes all these features still may not meet the current definition of a dwelling unit, based on building code standards.

  It should be noted this option would create a definition for a dwelling unit in an ADU that is not consistent with the definition used for other types of dwelling units, such as a dwelling unit in a duplex or apartment building. This could result in some internal inconsistencies in the development code that would need to be evaluated and addressed.

- **Option 5: Apply specific standards to accessory structures to address concerns with "guest houses" or "guest suites" being used as an ADU.** This option is an alternative to Option 4. Rather than broadening the definition of an ADU, the city could apply new standards in order to limit or prohibit the use of "guest houses" or "guest suites" as an ADU. The standards typically limit the type or number of plumbing fixtures that can be installed in order to make it very difficult to create a habitable dwelling. The following are two examples of this approach:

  - The **City of Bend** restricts accessory structures from including a kitchen or full bathroom but allows a half bathroom or wet bar if the property owner signs a "compliance form" which states the structure will not be used as a dwelling unit.

  - The **City of Eugene** limits accessory buildings to a maximum of two plumbing fixtures, effectively limiting the building to either a full bathroom (shower + toilet) or a kitchen sink and half bathroom. Three plumbing fixtures may be installed if the property owner records a deed restriction that prohibits the building from being used as an independent dwelling.

## Multiple Accessory Structures and Lot Coverage

The city currently allows for an ADU to be added to a site that already includes other accessory structures. This is common among other jurisdictions. Distinct from the "guest house" issue identified above, there may be a concern that allowing for an ADU alongside other accessory structures may result in too many structures on the site and too little open space. The city currently limits the total footprint of all accessory structures, including guest houses, to 500 or 700 square feet based on the size of the lot, with a maximum of 25 percent of the rear yard area, regardless of lot size. This standard does not apply to ADUs, however, so it only addresses the total footprint of accessory buildings in addition to the ADU.

Other jurisdictions commonly apply either a maximum lot coverage or maximum Floor Area Ratio (FAR) standard in order to address this concern. The following are examples of this approach:

- **City of Portland:** As part of the Residential Infill Project, the city is proposing to allow a house with an ADU to have a FAR between 0.5 and 0.8, depending on the zone. Additionally, the total lot coverage of all detached accessory structures cannot exceed 15% of the lot coverage of the primary dwelling on the lot.
- **City of Bend**: The city establishes a maximum FAR of 0.6. The FAR is inclusive of the primary dwelling and any accessory buildings, including ADUs. Additionally, the city has a maximum lot coverage of 35-50% depending on the zone, and ADUs and other accessory structures must meet the maximum lot coverage.

If lot coverage on sites with one or more accessory buildings and an ADU is a concern, then the city may consider the following options to address it:

- **Option 1: Apply the maximum footprint and/or rear yard coverage standard for accessory structures to ADUs.** The numerical standard may need to be adjusted to ensure that it does not present an undue barrier to ADU development. Additionally, the standard should be evaluated to ensure it does not effectively prohibit or discourage single-story ADUs, which are an important housing option for elderly people.
- **Option 2: Coordinate any lot coverage or FAR requirements with any future standards for duplexes.** The city does not currently require a maximum lot coverage or FAR in residential zones. If a new standard were to be applied to duplexes in residential zones, it would make sense to apply the same standard to ADUs, so the standard is consistent for all lots with two dwelling units. However, a new duplex may more easily adjust to a maximum lot coverage standard than an ADU proposed on a site with an existing house, as the existing house was likely not designed to meet a maximum lot coverage standard.

## Number and Type of ADUs

The city currently allows one ADU per detached single-family dwelling. Some cities have recently allowed for more than one ADU to be allowed per single-family dwelling or lot. Cities that have proposed or adopted this allowance typically require that one of the ADUs is attached or internal to the house, such as in a converted basement or attic. As this second ADU will likely not be visible from the street, there may be little to no visual impact of adding the ADU, though there may be other impacts, such as utilization of on-street parking.

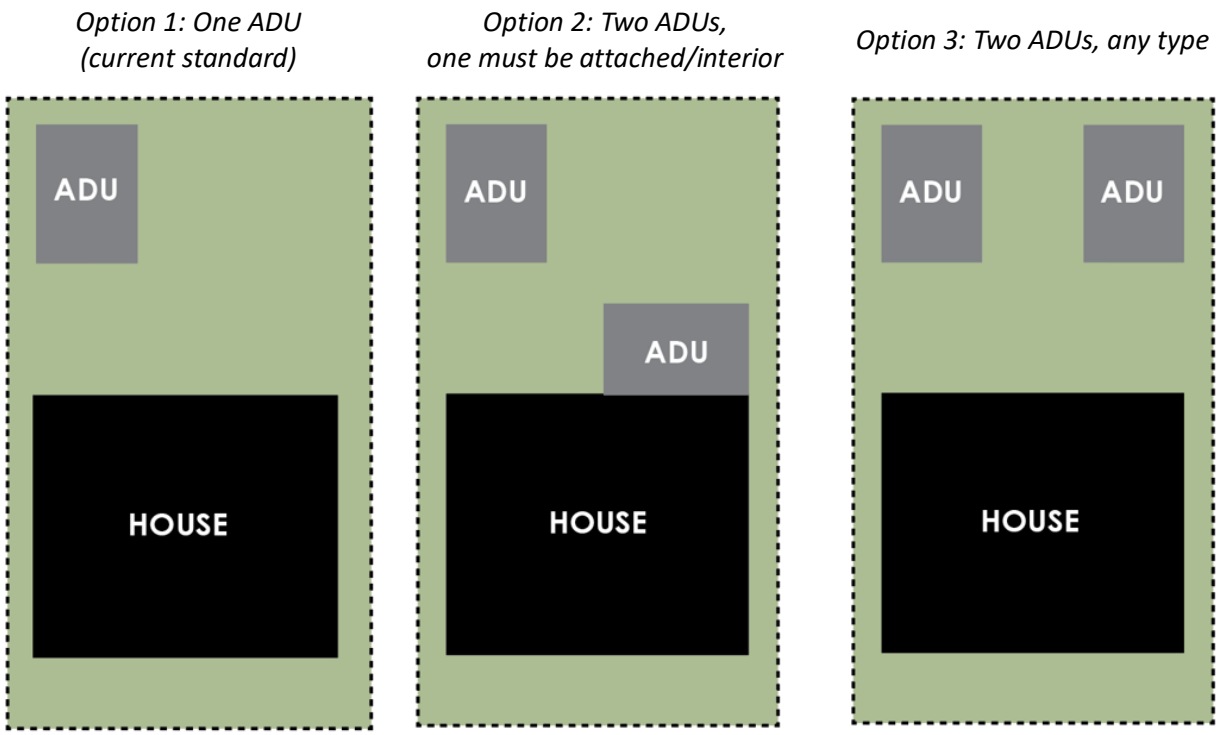
The allowance for more than one ADU should be coordinated with any proposed changes to allow for duplexes, triplexes, or fourplexes, or internal conversions of single-family houses to create more units. This coordination is needed to ensure consistency and clarity for how regulations apply to housing types that are functionally similar. The following two cases illustrate different examples of this coordination:

- **City of Tigard**: The City allows for up to two ADUs in all zones, one must be internal or attached, and both are exempt from density standards. The City does not define duplexes or triplexes as allowed housing types but does allow fourplexes ("quads") on the same size lot as a single-family house in several zones. Thus, the City does not explicitly allow duplexes or triplexes, but it functionally allows up to three units on one lot by allowing two ADUs, though the City requires the ADU units on the lot to meet ADU standards.
- **City of Oregon City**: The City allows for one ADU, exempt from density standards. However, internal conversions are allowed to create new units within the same structure, exempt from base zone density standards, but subject to a maximum ratio of one dwelling unit for each 2,500 square feet of site area, up to a maximum of four units. For example, if a property owner wanted to divide an existing 3,000 square foot house on a 5,000 square foot into multiple units, they could convert the house to a duplex, as the standard requires 2,500 square feet of lot area per unit. Therefore, this requirement is functionally similar to allowing a house with two ADUs, except the additional units are not called ADUs but are simply called a duplex, triplex, or fourplex created though an internal conversion. These units are not subject to ADU standards but are required to meet standards for internal conversions.
- **City of Portland**: The City of Portland has proposed to allow an ADU with a duplex as part of the City's Residential Infill Project (RIP). A duplex with an ADU must meet the same minimum lot size and Floor Area Ratio (FAR) standards as a triplex. This ensures a consistent standard for all lots with three dwelling units.

At this stage of the project, the following options are presented for consideration:

- **Option 1: Allow one ADU per single-family dwelling (current standard)**
- **Option 2: Allow two ADUs per single-family dwelling, as long as one of the units is interior or attached.**
- **Option 3: Allow two ADUs per single-family dwelling, regardless of the type of ADU (detached or attached).**
- **Option 4 Maintain current limit of one ADU per single-family dwelling and coordinate allowances for more than one ADU or for an ADU with a duplex with future proposed changes to allow for triplexes.** The ADU code amendments will occur prior to potential code amendments to allow for triplexes and other multi-unit housing types; thus, the city may not know what standards will apply to a triplex should they be allowed more widely in the future. If it is important that the standards that apply to a triplex are consistent with the standards that apply to a house with two ADUs or a duplex with an ADU, then the city should defer this particular ADU code amendment until the triplex standards are developed.

*Figure 1. Options for Number of ADUs*




## Unit Size

The city currently limits the size of an ADU to 800 square feet or 50% of the size of the primary dwelling, whichever is smaller. The cap at 800 square feet is common and generally supportive of ADU development, as smaller units may not appeal to as many households or situations. For example, an 800 square foot unit can accommodate two bedrooms, but this is more difficult in smaller units. However, limiting the size of the ADU to 50% of the primary dwelling may present a barrier for ADUs added to smaller houses and/or to ADUs created through conversion of an existing basement.

Some cities allow for ADUs as large as 1,000 square feet, with some limitations:

- **City of Happy Valley**: Happy Valley allows for detached ADUs up to 1,000 square feet as long as the total floor area does not exceed 50% of the floor area of the primary dwelling. Attached or internal ADUs may exceed 1,000 square feet as long as they do not exceed 50% of the floor area of the primary dwelling.
- **City of West Linn:** West Linn allows ADUs to be up to 1,000 square feet, as long as the ADU only contains one bedroom and the floor area does not exceed 30% of the floor area of the primary dwelling.

- **City of Austin, Texas**: Austin allows ADUs to be up to 1,100 square feet, as long as the FAR of the ADU (not including the primary dwelling) does not exceed 0.15. Thus, in order to build an ADU as large as 1,100 square feet, the lot area must be at least 6,666 square feet.

An ADU that is up to 75% of size of the primary dwelling could still be considered "accessory" in size to the primary dwelling and would encourage ADU development on lots with small existing houses. The visual impact, scale, and compatibility of the ADU can be addressed through other measures, such as setbacks, height, and design standards. In addition, an ADU that is created through conversion of internal living space into a dwelling unit has no additional visual impact and little functional impact on the use of the site, so long as the footprint of the building is not expanded.

The following options are presented for consideration. A set of options is presented for detached and attached ADUs (any ADU created by increasing the amount of floor area on the site) and internal ADUs (any ADU created through conversion existing floor area):

**Detached and Attached ADUs:**

- **Option 1: Allow detached and attached ADUs to be up to 800 square feet or 75% of the floor area of the primary dwelling, whichever is smaller.**
- **Option 2: Allow detached and attached ADUs to be up to 800 square feet, regardless of the size of the primary dwelling.**
- **Option 3: Allow detached and attached ADUs to be up to 1,000-1,100 square feet, regardless of the size of a primary dwelling.**

**Internal ADUs:**

- **Option 1: Apply the same size limit that applies to attached and detached ADUs.**
- **Option 2: Apply the same size limit that applies to attached and detached ADUs, except allow for ADUs created through conversion of an attic, basement, or first floor of a split-level home, to exceed the size limit so long as no floor area is added to the site.**
- **Option 3: Do not limit the size of an ADU created through an internal conversion, except any floor area that is added to the dwelling at the same time must not exceed the size limit that applies to an attached ADU.** This option would allow for more flexibility for different types of internal ADUs and allows for an ADU to be created through a combination of converting internal space and adding floor area, but would limit the size of the addition to the limit that applies to all attached ADUs.

## Off-Street Parking

The city currently requires one off-street parking space for an ADU in addition to one off-street parking space for the primary dwelling. In many cases, it may be difficult to provide an additional off-street parking space for the ADU. Driveways can count toward this requirement if the primary

dwelling has a garage and the driveway to the garage is deep enough to meet the minimum standards for a parking space. The area next to the driveway, but outside the side yard setback, can also be used under some conditions. If there is no garage and no alley access, then meeting this standard may be challenging because the front yard cannot be used for parking, and there may not be enough room between the driveway and the side yard setback to allow for an additional space. Even if there is enough room, the additional cost of a wider curb cut and paving the driveway may be substantial and present a barrier to ADU development. See Figure 2 for an example of a lot that has plenty of space to accommodate an ADU but may have difficulty meeting off-street parking requirements.

*Figure 2. Example of off-street parking challenges for an ADU*

In response to this challenge, some cities have eliminated off-street parking requirements for ADUs or provide flexibility in how the parking requirement can be met:

- **City of Tigard:** The City requires one off-street parking space per ADU but provides an exemption for lots within 2,500 feet of a transit line and allows for an on-street parking space along the lot frontage to be credited toward the off-street requirement. To qualify for the on-street credit, the space must be on an improved/curbed street, at least 24 feet long, adjacent to the lot, and must not extend into a vision clearance area.
- **City of Bend:** The City of Bend requires a one parking space for an ADU and two parking spaces for the primary dwelling for a total of three parking spaces for a house with an ADU.

The City allows for one on-street parking space to count toward this requirement to reduce the number of off-street parking spaces to two.

The following options are proposed for amendments to off-street parking requirements:

- **Option 1: Eliminate off-street parking requirement for ADUs.**
- **Option 2: Eliminate off-street parking requirement for one ADU but require an additional parking space for a second ADU on the same lot.**
- **Option 3: Provide a credit for on-street parking for ADUs.** This option would allow for an on-street space along the site frontage to be credited toward the requirement for an off-street parking space, provided the street meets certain standards, such as the level of street improvements (curb, paving, etc.) and the width of the street
- **Option 4: Provide an exemption from off-street parking requirement for ADUs in close proximity to transit.** The exemption may apply to all properties within a ¼ mile or ½ mile of transit stations, for example.

## Height

The city currently applies the base zone maximum height standard to ADUs, which can range from 35 to 60 feet depending on the zone. Height is measured at the highest point on the roof, which is the top of the ridge of a pitched roof. The maximum size of 800 square feet for an ADU effectively limits the height of the structure to two stories; however, there may be situations where a two story ADU is not desirable based on the surrounding development pattern or potential impacts on neighbors.

As demonstrated in Table 1, most jurisdictions apply the base zone maximum height to attached ADUs. This makes sense because the ADU is intended to part of the main structure and may fit with the design of the main structure more closely if it can be the same height.

Many jurisdictions limit the height of detached ADUs below the base zone maximum height. A detached ADU that is significantly taller than the primary dwelling may be inconsistent with the idea that the structure is “accessory to” the primary dwelling. Detached ADUs are more likely to be placed close to the rear lot line and therefore may have a greater visual impact on adjacent properties. Further, a detached ADU built over a garage could be significantly taller because the first level (the garage) would not be counted toward the maximum floor area of the ADU.

The method of measuring height for a pitched roof is an important consideration. As shown in Table 1, many jurisdictions that limit a detached ADU to 20 feet measure the height at the midpoint of a pitched roof, not the ridge.

*Table 1. ADU Maximum Height Standards, Selected Jurisdictions*

| Jurisdiction | Attached | Detached | Measurement |
|---|---|---|---|
| *City of Portland* | Base zone | • 20 feet<br>• 15 feet if within setbacks<br>• If over 15 feet, then must meet design compatibility standards | Midpoint of a pitched roof, top of a flat or shed roof. |
| *City of Oregon City* | Base zone | 20 feet and no higher than the principal dwelling | Midpoint of a pitched roof, top of a flat or shed roof. |
| *City of Bend* | Base zone | 25 feet | Peak of roof for a pitched roof, top of a flat or shed roof. |
| *City of Tigard* | Base zone | 25 feet | Midpoint of a pitched roof, top of a flat or shed roof. |
| *City of Vancouver, B.C.* | 25 feet | 25 feet | Peak of roof for a pitched roof, top of a flat or shed roof. |
| *City of Tacoma, WA* | • 18 feet<br>• Up to 20 feet if above a garage or with Built Green 4 Star certification | • Height of primary dwelling<br>• Up to 20 feet if above a garage or with Built Green 4 Star certification | Peak of roof for a pitched roof, top of a flat or shed roof |

The following options are presented for considerations:

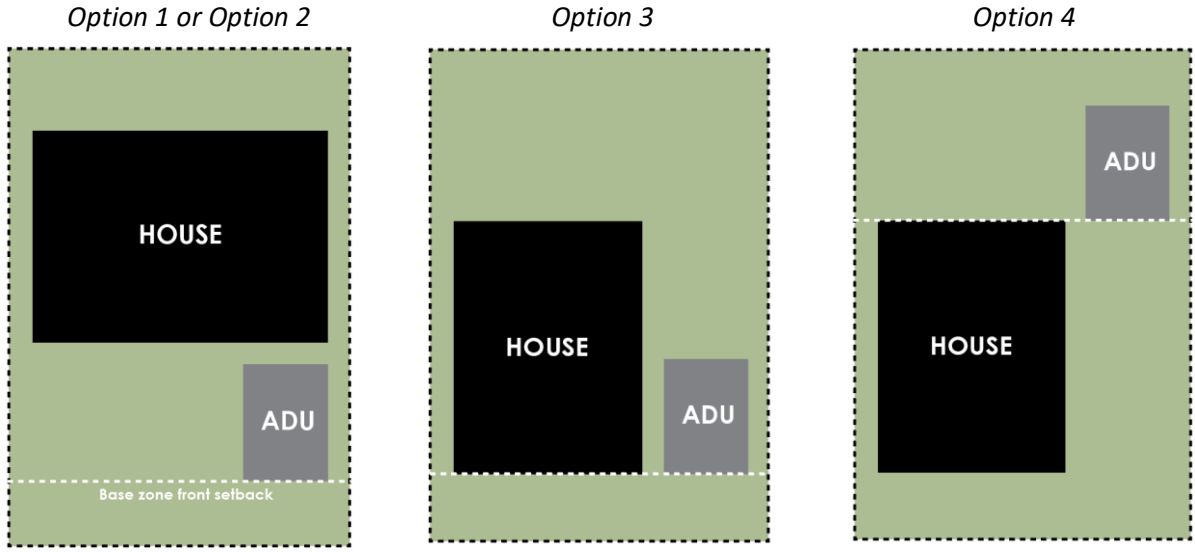
- **Option 1: Continue to apply the base zone maximum height standard to all ADUs**. This option preserves the greatest flexibility for development but could potentially allow for a very tall 2-story or 2.5-story ADU that is out of scale with the main house or the neighboring properties.
- **Option 2: Limit the height of detached ADUs to 25 feet**. Attached ADUs could be built to the base zone maximum height. For detached ADUs, this is a minor reduction from the base zone height standards, which is 35 feet in the R4, R5, R7, and R10 zones. This standard would prevent ADUs from being 2.5 stories tall, which is unlikely but may occur if the first floor is a garage. Given that the city currently measures the height of a pitched roof at the ridge, a 25-foot height maximum would be more appropriate because it would still allow a two story ADU with a pitched roof.
- **Option 3: Limit the height of detached ADUs to 20 feet.** Attached ADUs could be built to the base zone maximum height. Given that the city currently measures the height of a pitched roof at the ridge, a 20-foot maximum height may restrict two-story ADUs with a pitched roof and may encourage flat roof designs on two-story ADUs. This may be undesirable in most neighborhoods where pitched roofs are a common pattern.

## Front Setbacks

The city does not currently require special front yard setbacks for ADUs, and ADUs must meet base zone setback standards. There may be an opportunity to apply a special front setback standard to ADUs in order to prevent ADUs from being placed in front of a primary dwelling. This can occur when a primary dwelling is set back far enough on the lot that the ADU can be placed in front of the dwelling—either directly in front or to the side and in front—and still meet the base zone front setback standard. Placing an ADU in front of the primary dwelling is not consistent with the "accessory" concept for an ADU. Generally, the ADU should be less prominent and visible than the primary dwelling. The following options are presented for consideration:

- **Option 1: Do not require special front setbacks for ADUs (current standard)**. ADUs would still need to meet the base zone front setback, which may allow an ADU to be placed in front of a primary dwelling.
- **Option 2: Do not require special front setbacks for ADUs but require ADUs placed in front of the primary dwelling to meet certain standards**. The intent of the standards would be to limit blank walls along the street. The standards may require minimum window coverage, articulation, or certain design details.
- **Option 3: Require a detached ADU to be located behind the front building line of the primary dwelling.** This would allow ADUs to be located to the side of an existing dwelling with the same setback as the dwelling.
- **Option 4: Require a detached ADU to either be setback 40 feet from the front lot line or behind the rear building line of the primary dwelling.** See Figure 3. If the rear building line is more than 40 feet from the front lot line, then the ADU can be placed to the side of the primary dwelling but at least 40 feet from the front lot line.

*Figure 3. Front Setback Options*



## Rear and Side Setbacks

The base zone minimum rear setback standard may be a significant barrier for ADUs placed behind the primary dwelling. The standard ranges from 15 to 25 feet, depending on the zone. This standard is a barrier because it may not leave enough space between the rear of the primary dwelling and the minimum rear setback line. Additionally, this standard may require the ADU to be closer to the main house that would otherwise be desired and can result in smaller pockets of open space rather than one, larger and more functional open space. The base zone side setback is less likely to present a significant barrier in most cases, but it may be desirable to allow an exemption from the setback standard if the proposed ADU can meet other requirements. The following cities offer examples of exemptions to rear and side setback standards for ADUs.

- **City of Portland**: The City allows for ADUs and other detached accessory structures to encroach on setback standards if the ADU meets a number of specific standards. These standards are generally intended to limit the size and prominence of the structure and preserve the privacy of neighboring properties. The standards are also applied to existing accessory structures that are proposed to be converted to ADUs. The standards are as follows:
    - Structure must be set back more than 40 feet from a front lot line;
    - Footprint of structure must be less than 24 feet (excluding eaves) on all sides;
    - Combined length of all structures in the setback adjacent to each property line is less than 24 feet;
    - Overall height of structure is less than 15 feet high and the walls of the structure are less than 10 feet high, excluding the portion of the wall within a gable;
    - Unenclosed portions of structure must be screened from adjoining lots by a fence or landscaping
    - Walls located within the setback cannot have doors or windows facing the adjacent lot line;
    - The structure cannot have a rooftop deck or patio; and
    - Dormers must be set back ≥ 5 feet from the side and rear lot lines
- **City of Tacoma:** The City of Tacoma allows for an existing accessory structure located within a side or rear setback to be converted to an ADU as long as the structure meets minimum building code requirements for separation between structures. All new ADUs must meet setback standards.
- **City of Oregon City:** The City of Oregon City allows for legal nonconforming detached structures that are converted into detached ADUs to be exempt from setback requirements, if modifications to the structure do not cause it to encroach any further into the setback.

The following options are presented for consideration:

- **Option 1: Maintain current requirement that ADUs meet rear and side setback standards.**

- **Option 2: Exempt ADUs from base zone side and rear setback standard but apply a sloped height requirement based on the distance from the rear lot line.** This concept is similar to the "bulk plane" examples presented in section 2 of this memo, below. The city currently applies a similar standard to accessory structures that are not ADUs. This same standard could be applied to ADUs or the standard could be modified for ADUs.
- **Option 3: Exempt ADUs from base zone side and rear setback standards and apply a minimum rear setback of 5 feet.**
- **Option 4: Allow for the conversion of existing structures within setback areas to ADUs so long as they do not encroach further into the setback area.**
- **Option 5: Exempt ADUs from base zone side and rear setback standards, including conversion of existing structures, but require ADUs within the setback area to meet standards that limit the size of the structure and preserve privacy of neighbors.** This option would adopt a similar approach as the City of Portland, described above, which would allow for exemptions for both new ADUs and conversions of existing structures, but would apply a uniform set of standards to both types of ADUs.

## Design Compatibility

The city currently requires that a new ADU match the exterior materials, roof pitch, trim, window proportion and orientation, and depth of eaves of the primary dwelling. Generally, this will result in ADUs that visually blend in with the existing neighborhood. However, this standard limits options for a property owner that wants to build an ADU and may not always be desirable if some features of the primary dwelling are not important to preserve or may adversely affect the function of the ADU. Additionally, the requirement to "match" the style of these elements may not be a clear and objective standard, as there is some level of interpretation required to determine if the features match the features of the existing house. Finally, the city does not require specific design elements for new detached, single-family houses, so it may not be equitable to apply these standards to ADUs. The following options are presented for consideration:

- **Option 1: Eliminate design compatibility requirements.** See Figure 4 for an example of an attached ADU with a different roof pitch and style of window trim than the main house, but is designed to generally complement the exterior materials, window orientation, and paint color of the main house.

*Figure 4. Example of an attached ADU that does not match all desian features of main house*

- **Option 2: Select a more limited set of key features and require those features to be the same as the primary dwelling.** For example, the city may require that roof pitch and exterior materials match the main dwelling but allow flexibility on the design of other features, such a window shape, trim, and eaves. See Figure 5 for an example of an ADU that generally matches the roof pitch, eaves, and exterior materials of the main dwelling, but uses different shapes and sizes of windows.

*Figure 5. Example of an ADU that matches some key features of the primary dwelling*

- **Option 3: Require design compatibility only for ADUs that are visible from the street, more than one story tall, or attached to the primary dwelling.** See Figure 6 for an example of a two-story ADU that matches the exterior materials, window trim, window shape and size, roof pitch, and eaves of the primary dwelling.

*Figure 6. Example of a two-story ADU that matches all design features of the primary dwelling*

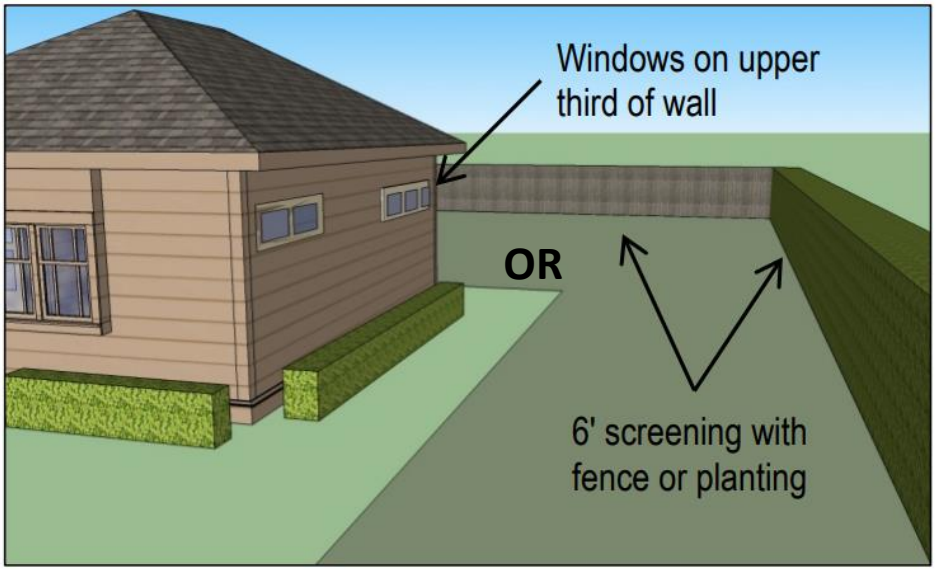
## Privacy

Current ADU standards do not address potential privacy concerns for neighbors adjacent to new ADUs. A detached or attached ADU with windows or doorways that face an adjacent residential lot could result in more people being able to see into a neighboring home or yard than would otherwise occur with one detached house.

The **City of Milwaukie** requires that any walls of an ADU that face another residential lot line must meet a privacy standard. The standard requires either (a) visual screening via a sight-obscuring fence or evergreen vegetation or (b) the windows of that wall facing the neighboring lot are required to be placed on the upper third of the wall to limit views into the neighboring lot while allowing natural light (see Figure 7).

- **Option 1: Maintain current approach and do no adopt a privacy standard.**
- **Option 2: Adopt a privacy standard that limits views into adjacent properties through regulating window placement or visual screening.**

*Figure 7. Example of a privacy standard for ADUs (City of Milwaukie)*



## 2. DENSITY AND DEVELOPMENT STANDARDS AND 3. BUILDING SCALE AND FORM

### Issue and Opportunity: Density and Development Standards

**Issue:** The Development Code sets standards for minimum and maximum density, setbacks, and lot dimensions that are a barrier for some housing types in some residential zones. In particular, maximum density standards effectively prohibit some housing types, such as duplexes, triplexes, and courtyard apartments in the R4, R5, R7, and R10 zones. Minimum density standards in the R1 zone effectively prohibit some housing types, such as cottage clusters and townhomes.

**Opportunity:** Density and development standards can be amended to allow for forms of housing that will continue to meet the intent of the zone. In some cases, existing standards for conventional single-family detached housing may not change, but standards that apply to other housing types may be created or revised to ensure the housing types are both feasible to build and will be designed to meet the intent of the zone.

### Issue and Opportunity: Building Scale and Form

**Issue:** If built to the maximum standards allowed under the existing Development Code, some lower-density housing types may be dissimilar in scale and form than existing housing in some residential neighborhoods. For example, the building may have a larger footprint, more “bulk” in relation to the size of the lot or be taller than nearby housing. Alternatively, the building(s) may be substantially smaller than existing houses, but placed closer together, as in a cottage cluster.

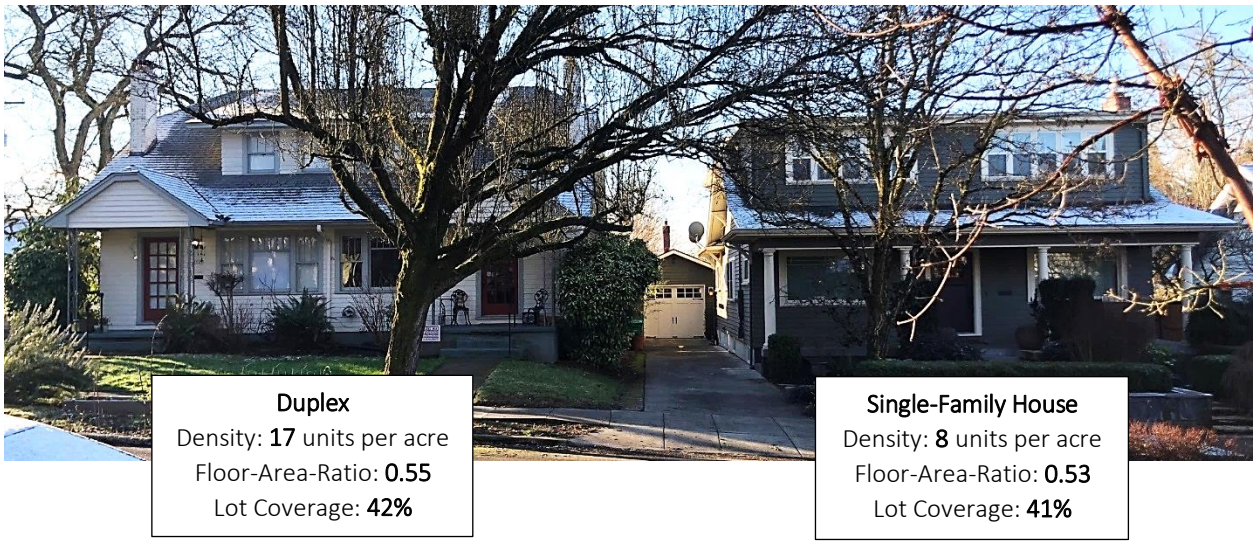
**Opportunity:** Development standards can be amended or supplemented with new standards to guide the scale and form of development and reduce visual disparities between existing housing and new housing types. These standards can be balanced with the need to ensure that a wide variety of housing types are feasible to develop.

### Best Practices and Alternatives

#### Density and Lot Size

Density and minimum lot size are the primary organizing principle for residential zoning districts in many development codes. Yet, density is an imprecise measure of the scale of an individual structure because the size of the unit(s) within the structure can vary significantly. A 6,000 square foot house and a 2,500 square foot house on the same size lot equate to the same density, although the 6,000 square foot house is much larger and bulkier than the 2,500 square foot house. The same principle applies when comparing a single-family house to a duplex, triplex, or other attached housing type. See Figure 8 for an example of a single-family house and duplex; the duplex is twice the density of the single-family house but looks very similar. The overall floor area and scale of the duplex is similar to the single-family house, but each unit in the duplex is approximately half the size of the single-family house.

*Figure 8. Example of a duplex and a single-family house (Portland, OR)*




To allow for a wider variety of attached housing types in zones that have predominantly detached housing, while maintaining a similar scale of development, many cities provide a "density bonus" for new housing types yet control the overall bulk and scale of each building through other measures. This approach is consistent with the goals of the HOP because it encourages adding to the housing supply and providing additional housing options, while preserving one of the essential characteristics of existing neighborhoods (the size of houses). This approach also encourages smaller unit sizes because it limits the overall size of the building but allows multiple units in a building.

Density and lot size standards should be designed to implement broader goals for adding to housing supply and ensuring new housing types fit within existing neighborhoods, so specific standards are not recommended at this phase of the project. The basic question to be addressed is: how should density and lot size standards be scaled to allow for more housing types in existing neighborhoods? There are two general approaches to this question (see Table 2). The first approach is to maintain the same lot size standard but to adjust maximum density standards to allow more units on the same size lot. This approach may allow double, triple, or even quadruple the density that is allowed for a single-family house. The second approach is to scale the minimum lot size based on the number of units on the lot, which would allow for a slight increase in density with each new unit.

*Table 2. Example of density and lot size options*

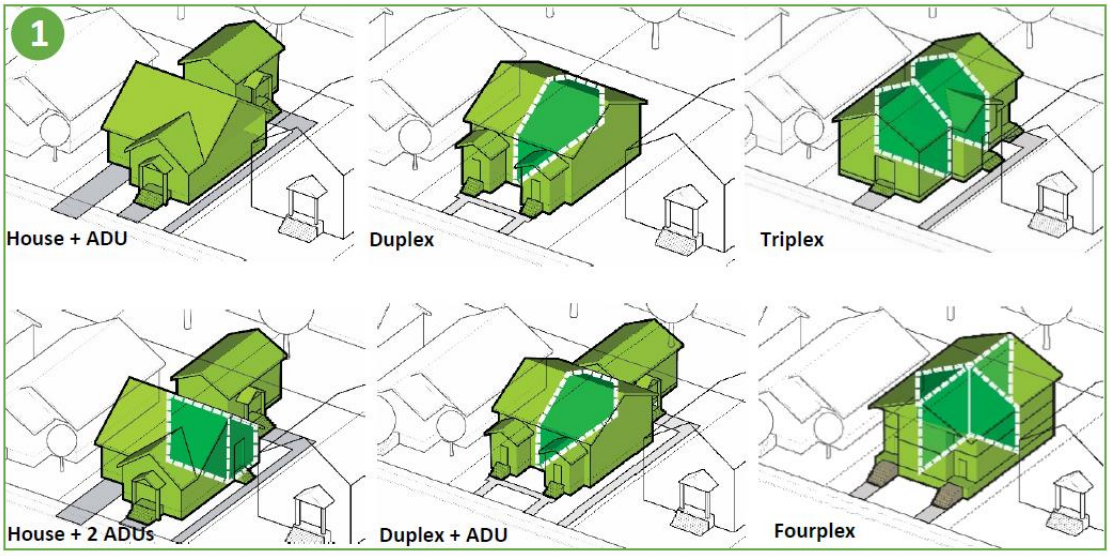
| Housing type | Option 1: Same lot size, more units | | Option 2: Scaled lot size | |
|---|---|---|---|---|
| | Minimum lot size | Density | Minimum lot size | Density |
| Detached dwelling | 5,000 sf | 5,000 sf per unit | 5,000 sf | 5,000 sf per unit |
| Duplex | 5,000 sf | 2,500 sf per unit | 6,000 sf | 3,000 sf per unit |
| Triplex | 5,000 sf | 1,750 sf per unit | 8,000 sf | 2,666 sf per unit |
| Fourplex | 5,000 sf | 1,250 sf per unit | 10,000 sf | 2,000 sf per unit |

**Option 1: Same lot size, more units**

Under this approach, a duplex, triplex, or other attached dwellings would be allowed on the same size lot as a detached house in that zone. The number of units allowed on the same size lot may vary according to policy goals and by zone, and there may be a threshold at which a larger lot is required. The following cities offer examples of this approach:

- **City of Portland (Residential Infill Project):** The City has proposed that up to two units be allowed on the same size lot as a detached house in the City's R-7, R-5, and R-2.5 zones (1,600 to 4,200 square feet depending on zone). The two units may take the form of a duplex or a house and an ADU. Additionally, up to 4 units may be developed on a slightly larger lot (3,200-5,000 square feet depending on zone). The bulk and scale of new buildings is primarily controlled through a maximum floor area ratio (FAR) standard, in addition to minimum setbacks, maximum height, and maximum lot coverage. See Figure 9 for an illustration of this approach.

*Figure 9. City of Portland Residential Infill Project (Density and Lot Size)*




- **City of Tigard (Housing Options Project):** The City of Tigard recently adopted new standards for fourplexes ("quads"), courtyard apartments, and cottage cluster housing, among other types. Quads are allowed on the same size lot as single-family detached houses in the R-3.5, R-4.5, and R-7 zones. Bulk and scale are controlled through maximum unit size standards (1,000 square feet) and maximum lot coverage. Courtyard apartments (5-12 units) and cottage cluster housing (4-12 units) are also allowed in single-family zones. Maximum density is not specifically regulated for these housing types, but density is effectively controlled by capping the number of units on a lot and setting the minimum lot width, minimum open space, parking, and other requirements. Building bulk and scale is controlled by capping unit size (1,000-1,200 square feet).

There are two primary advantages to the Option 1 approach. First, allowing for more units on the same size lot will likely broaden the number of infill lots where new housing types can be built, as most lots in the zone are probably close to the existing minimum lot size for a single-family zone. If a larger lot is required, more existing lots would be ineligible, and lot assembly would be required to develop, which can be difficult. Second, this approach may result in buildings that are more compatible with the scale of existing buildings, as long as the bulk of the building is controlled through lot coverage, FAR, or other standards. If a larger lot is required for multi-unit buildings, then those buildings are more likely to be larger and out-of-scale with existing houses, as most developments will maximize the buildable area of the lot.

**Option 2: Scale lot size by number of units**

As illustrated in Table 2, an alternative approach is to scale the minimum lot size by the number of units on the lot. This approach generally allows for an incremental increase in density, rather than double or triple the density of a detached house, under Option 1. The following cities have recently adopted this approach:

- **City of Oregon City (Equitable Housing Project).** The City has proposed code amendments to allow duplexes, single-family attached units (townhomes), triplexes, and fourplexes in medium density zones (R-3.5 and R-5). In the R-5 zone, a single-family detached house requires a 5,000 square foot lot, duplex a 6,000 square foot lot, single-family attached a 3,500 square foot lot, and triplexes/fourplexes 2,500 square feet per unit. Maximum density standards were revised to align with these minimum lot size requirements. Bulk and scale are controlled through maximum lot coverage and other measures.
- **City of Bend.** The City recently adopted code amendments to allow for duplexes and triplexes on smaller lots in Standard Density Residential Zone, which allows for densities in the range of 4.0 to 7.3 units per acre. Duplexes are allowed on 6,000 square foot lots and triplexes on 9,000 square foot lots. The code amendments also exempted duplexes and triplexes from maximum density standards, except if they are proposed as part of a subdivision. At the same time, the City adopted new design standards for duplexes and triplexes and a maximum FAR of 0.60. Bulk is also controlled through maximum lot coverage.

The advantage of Option 2 is that it applies a more consistent maximum density standard to different housing types. Attached housing types may be allowed at a higher density, but not double or triple the density level of a single-family dwelling. The disadvantage of Option 2 is that it may result in less infill development, as it may be difficult to find lots that are large enough to accommodate the minimum lot sizes. Additionally, a larger lot costs more to the developer and this cost may be passed on in the sale price or rent, and the developer may build larger units than would be built on a smaller lot in order to charge a higher price. The appropriate approach to density and lot size standards for the City of Beaverton should be informed by an understanding of existing lot size and building size patterns, policy goals, and community preferences.

## Setbacks and Height

Generally, cities do not make significant changes to setback or height standards to accommodate a wider variety of housing types. Setbacks and building height are key characteristics of residential neighborhoods; therefore, applying these standards consistently, regardless of housing type, can help to ensure compatibility between existing and new development. Setbacks and height define the basic "envelope" within which a building can be developed, but additional measures to control bulk and scale may be necessary to ensure compatibility.

There may be a need to modify setback or height standards for larger, multi-unit buildings, to create a transition between these larger structures and detached houses. The City of Tigard requires courtyard apartment buildings to have wider side setbacks—10 feet instead of 5 feet—and a lower building height—18 feet instead of 35 feet—to reduce the visual mass of a larger building. This intent could also be achieved through alternative measures outlined below, such as a bulk plane or maximum FAR.

## Building Bulk and Scale

Bulk generally refers to the relative size, volume, or massing of a building. Scale generally refers to how people perceive the size of a building compared to other buildings or forms. Bulk and scale are often regulated to avoid stark contrasts between adjacent buildings or all buildings in a neighborhood or district.

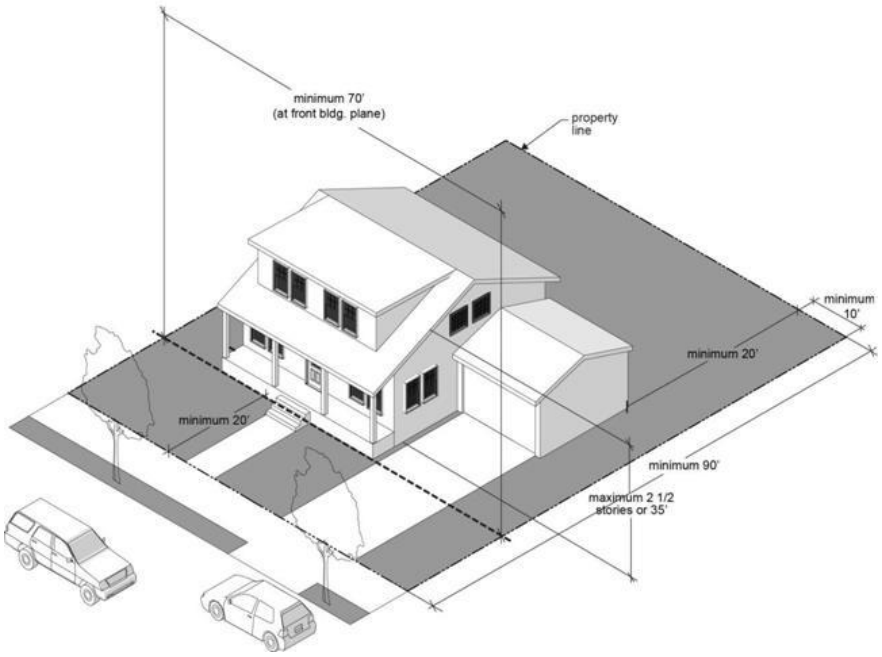
There are several options for regulating building bulk and scale, in addition to setbacks and height, and in conjunction with allowances for higher densities. The city currently does not apply any of these standards in single-family residential zones. These standards may be necessary when allowing additional housing types because a duplex, triplex, rowhouse, or other multi-unit building is more likely to maximize the buildable envelope on the site. The total size of a single-family house is limited by the amount of floor area that is marketable and profitable to construct for one dwelling unit, but this limit is much higher where multiple units are in the same building. The following standards may be used in combination or independently.

**Option 1: Lot Coverage**

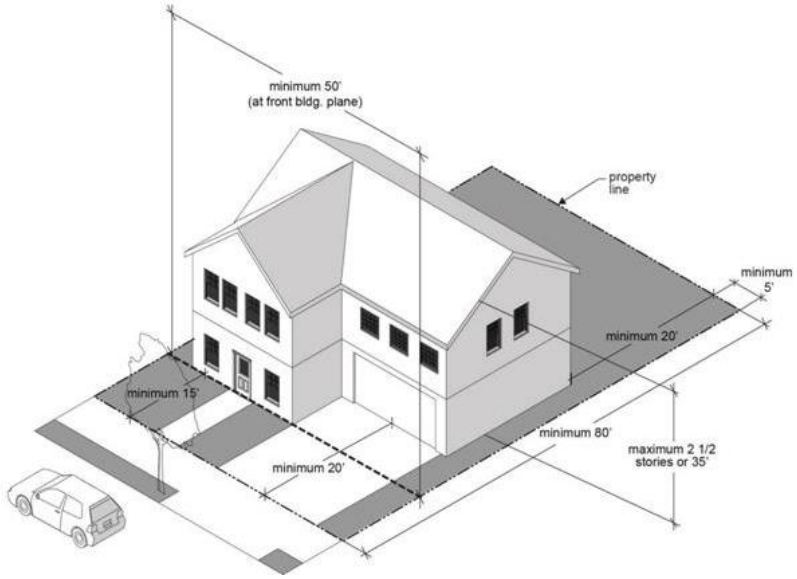
Lot coverage is typically defined as the percent of the site that is covered by enclosed buildings. A maximum lot coverage standard is used widely in residential zones to control building bulk and to encourage open space and green space on the site. A lower maximum lot coverage standard (35-50%) encourages 2 or 2.5 story buildings and a higher proportion of open space on the site but may present a barrier to multi-unit development if the standard overly restricts the size of the structure. A higher maximum lot coverage standard (50-80%) generally allows for larger buildings but may also encourage single-story development. Figure 10 provides diagrammatic examples of a house with 40% lot coverage and a house with 60% lot coverage.

*Figure 10. Example of lot coverage amounts (City of Hillsboro)*

*40% lot coverage*




*60% lot coverage*




**Option 2: Unit Size Caps**

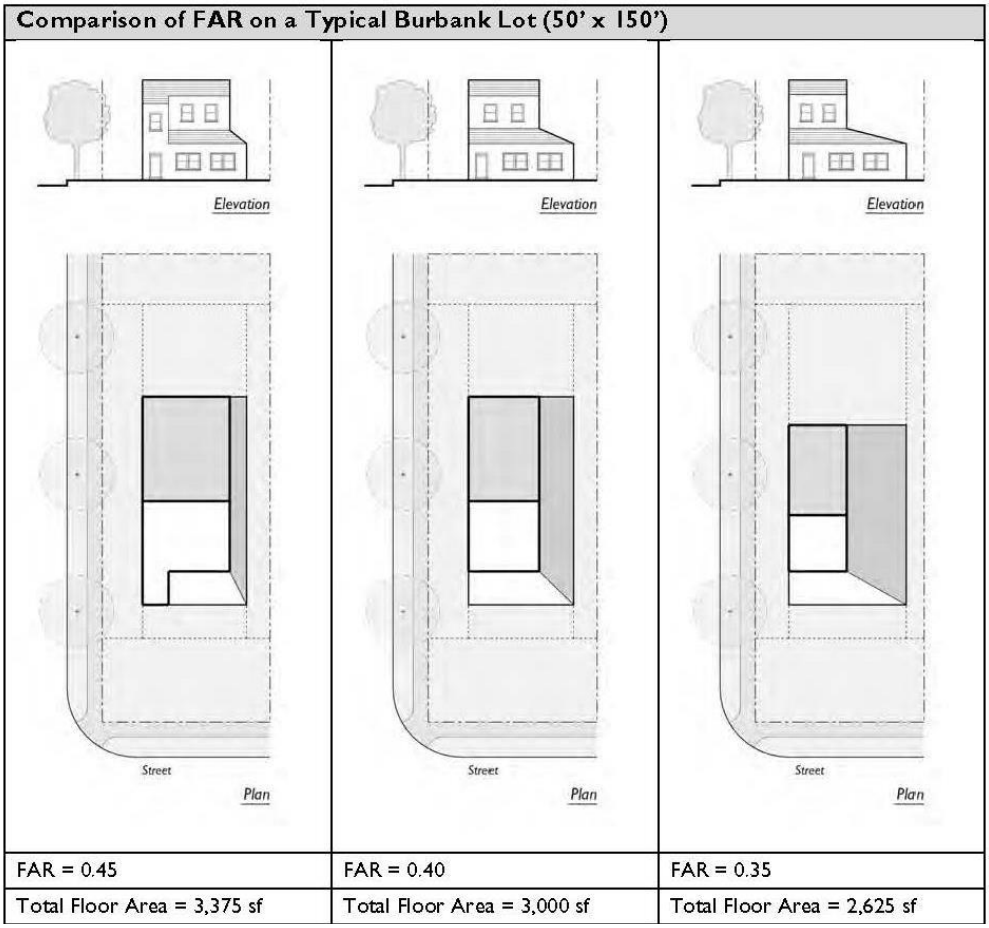
Limiting the floor area of individual dwelling units is another method for controlling the overall bulk and scale of the building. The city currently uses this approach to control the size of detached ADUs. The City of Tigard has applied this approach to quads, courtyard apartments, and cottage cluster developments, with maximum unit sizes in each between 1,000 and 1,200 square feet. Many cities have used this approach to allow for cottage cluster housing at higher densities while limiting the

overall bulk of multiple detached houses on the site. A benefit of this approach is that it is relatively simple to administer. A disadvantage of this approach is that it does not allow for variation in unit sizes within the structure or site. For example, it may be desirable for a triplex to include one 1,500 square foot unit, one 1,000 square foot unit, and one 500 square foot unit.

**Option 3: Floor Area Ratio**

Floor Area Ratio (FAR) is a ratio of the floor area in the structure (usually the livable space) to the square footage of the site. The city currently uses FAR to regulate the size of commercial and mixed-use buildings in some zones. A maximum FAR standard works by limiting the size of a building in proportion with the size of the lot. Figure 11 provides an example of a house meeting three different FAR standards on the same size lot.

*Figure 11. Example of various FAR amounts (Burbank, California)*




The following cities have applied FAR standards to development in single-family zones:

- **City of Portland (Residential Infill Project):** The City has proposed to apply a maximum FAR to all new development in residential zones, including both single-family detached housing and duplexes, triplexes, and fourplexes. See Table 3 for the proposed standards. The

maximum FAR is scaled by the number of units on the site, except a development with 3 or 4 units is allowed the same FAR. A development may earn a FAR bonus if one of the units is affordable at 80% of Median Family Income (MFI) or if an existing house is converted to add more units while not substantially altering the street-facing facade of the structure. The FAR will work in conjunction with a maximum lot coverage standard; lot coverage limits the amount of floor area on the first story, while FAR limits the total floor area. The FAR standards were informed by a study of existing housing in residential zones and trends in new construction. As shown in Table 3, the current setback, height, and lot coverage standards allow a significantly higher FAR, and the City found that homes that built to this FAR were out-of-scale with existing houses.

*Table 3. City of Portland Proposed FAR Limits*

| | | Zone | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | R7 | | | R5 | | | R2.5 | | |
| **# of Units** | **Allowed Housing Type** | **Min. lot size** | **FAR** Base | **FAR** With bonus | **Min. lot size** | **FAR** Base | **FAR** With bonus | **Min. lot size** | **FAR** Base | **FAR** With bonus |
| 1 | House | 4,200 sq ft | .4 | n/a | 3,000 sq ft | .5 | n/a | 1,600 sq ft | .7 | n/a |
| 2 | Duplex ***or*** house + ADU | | .5 | .6 | | .6 | .7 | | .8 | .9 |
| 3 | Triplex ***or*** duplex + ADU ***or*** house + 2 ADUs | 5,000 sq ft | .6 | .7 | 4,500 sq ft | .7 | .8 | 3,200 sq ft | .9 | 1.0 |
| 4 | Fourplex | | | | | | | | | |
| **Current allowed FAR** (based on setbacks, height, building coverage) | | 1.1 FAR | | | 1.35 FAR | | | 1.75 FAR | | |

- **City of Bend.** As noted above, the City of Bend recently adopted code amendments to allow for duplexes and triplexes on smaller lots in the Standard Density Residential Zone. A maximum FAR of 0.60 is applied to all duplexes and triplexes, but not to single-family detached housing. A maximum lot coverage of 60% is also applied to duplexes and triplexes.
- **City of Minneapolis.** The City of Minneapolis has used FAR to regulate the size of buildings in residential zones for many years. In zones that allow for single-family houses and duplexes, the City requires the same minimum lot size (6,000 square feet) and the same maximum FAR of 0.50. In zones that allow multi-family housing, similar standards are applied to houses and duplexes, but multi-family developments are required to have slightly larger lots and afforded a higher maximum FAR of 1.0 to 3.0. FAR may be increased if an applicant can demonstrate that at least 50% of buildings within 100 feet of the site exceed the maximum FAR. The City recently adopted a new comprehensive plan that calls for code amendments to allow for up to 3 units on every residential lot citywide. The code amendments have not been developed but the City is expected to continue to use the maximum FAR standard.

There are some important considerations about how FAR is measured that would need to be addressed in future phase of this project, such as how to account for attics, basements, and double-height ceilings.

The primary advantage of FAR is that it balances compatibility and flexibility. FAR ensures relatively consistent size of buildings but provides flexibility in how floor area is distributed across the site and across multiple units. Two buildings with the same FAR on the same or similar-sized lot can look very different and include a range of dwelling sizes, but the overall bulk and scale of the buildings will be generally similar.

**Option 4: Bulk Plane/Encroachment Plane**

In addition to or in lieu of lot coverage and FAR standards, some cities use the concept of a bulk plane (sometimes termed an "encroachment plane") to control the bulk and scale of buildings in residential zones. A bulk plane is an imaginary line sloping from the perimeter of the lot toward the center of the lot which establishes a sloped maximum height standard along that plane. No portion of the building may exceed the height of the bulk plane. The following cities use this approach:

- **City of Denver**. The City of Denver has a developed a relatively complex and detailed approach to residential zoning districts. The zoning system includes bulk plane requirements, which may vary slightly based on the neighborhood context of the zone, such as Suburban, Urban Edge, or Urban. There are two components to the bulk plane standard: the Bulk Plane Vertical Height, which is the height at which the sloped bulk plane originates, and the Bulk Plane Slope, which is the degree of the angle of the bulk plane (see Figure 12). See Figure 13 for an example of the bulk plane for an urban house. The Bulk Plane Vertical Height is 17 feet in the front portion of the lot and 10 feet in the rear portion of the lot, and Bulk Plane Slope is 45 degrees. See Figure 14 for an example of the bulk plane for a suburban house, which has a uniform Bulk Plane Vertical Height of 10 feet and a Bulk Plane Slope of 45 degrees.

*Figure 12. Bulk Plane Measurements, City of Denver*

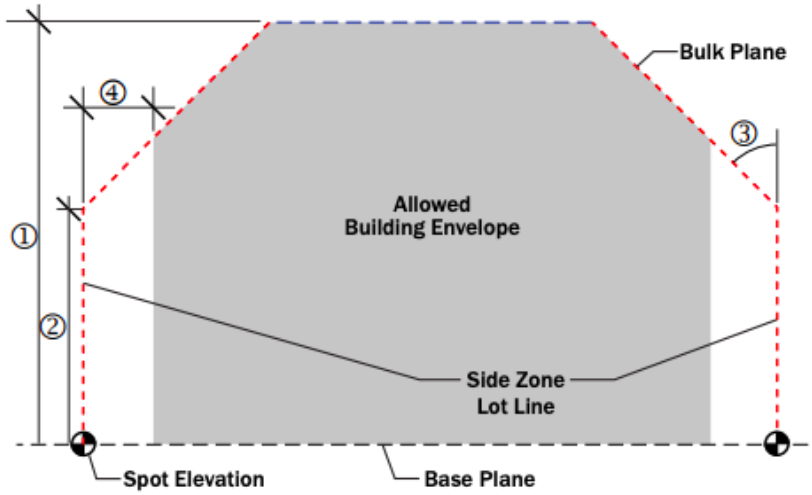


*Figure 13. Bulk Plane for Urban House, City of Denver*

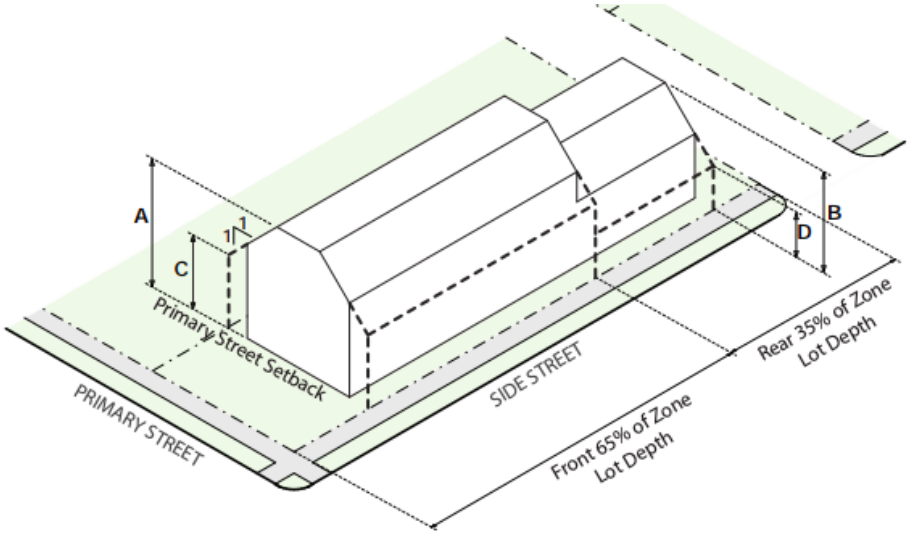
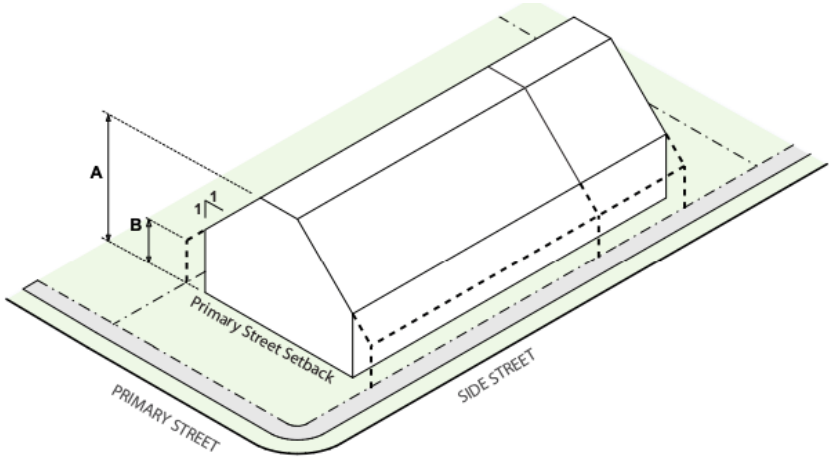



*Figure 14. Bulk Plane for a Suburban House, City of Denver*




- **City of Los Angeles.** In 2017, the City of Los Angeles adopted amendments to building bulk regulations in the City's R-1 zone to address issues with building massing and scale in a variety of neighborhood contexts. The amendments applied a 45-degree angled "encroachment plane" citywide, starting at 20 feet above the required front and side yard setbacks. Additionally, the City created 16 new "variation zones", which provide tailored regulations to address different neighborhood contexts. The variation zones fall into four categories based on how they regulate massing on the lot: R1V – Variable Mass, R1R – Rear Mass, R1F – Front Mass, and R1H – Hillside. See Figure 15 for an example of the encroachment plane standard work in conjunction with other standards to regulate building bulk and massing.

*Figure 15. Example of a Mass Variation Zone, City of Los Angeles*

**R1 FRONT-MASS VARIATION ZONES DEVELOPMENT STANDARDS COMPARED TO STANDARD R1**

| Lot Size and Residential Floor Area Ratio | | Standard R1 | R1F1 | R1F2 | R1F3 | R1F4 | Max Lot Coverage |
|---|---|---|---|---|---|---|---|
| | Up to 6,000 SF | .45 | .65 | .55 | .45 | .40 | 50% |
| | 6,001 to 7,000 SF | | .63 | .53 | .43 | .38 | 48% |
| | 7,001 to 8,000 SF | | .61 | .51 | .41 | .36 | 46% |
| | 8,001 to 9,000 SF | | .59 | .49 | .39 | .34 | 44% |
| | 9,001 to 10,000 SF | | .57 | .47 | .37 | .32 | 42% |
| | Over 10,000 SF | | .55 | .45 | .35 | .30 | 40% |
| **Front Mass** | | | | | | | |
| (A) | Front envelope depth, from front yard setback (min) | n/a | - | - | - | - | |
| (B) | Height of Mass (max) | Generally 28'-33' | 30' | 30' | 28' | 26' | |
| (C) | Encroachment Plane Origin Height | 20' | 22' | 22' | 20' | 18' | |
| | Angle of Encroachment Plane | 45° | 45° | 45° | 45° | 45° | |
| **Rear Mass** | | | | | | | |
| (D) | Rear envelope depth, from rear yard setback (min) | n/a | 25' | 25' | 25' | 25' | |
| (E) | Height of Mass (max) | - | 24' | 24' | 20' | 18' | |
| (F) | Encroachment Plane Origin Height | - | 16' | 16' | 14' | 14' | |
| | Angle of Encroachment Plane | - | 45° | 45° | 45° | 45° | |

Bulk plane or encroachment plane standards may work in conjunction with lot coverage or FAR standards. The distinct benefit of a bulk plane standard is that it limits the bulk of buildings around the perimeter, which can reduce the visual contrast and other impacts of taller buildings in close proximity to existing lots and houses.

## Open Space/Outdoor Area

The city currently requires a minimum amount of open space or outdoor area on a site depending on the housing type and the number of units, as follows:

- Less than 3 units of Attached Dwellings or Compact Detached Dwellings: No minimum open space (only minimum landscaping requirements).
- 4-7 units of Attached Dwellings: No minimum open space (only minimum landscaping requirements).
- 4-7 units of Compact Detached Dwellings: 300 square feet of private open space, no dimension less than 10 feet.
- 8 or more units of Attached Dwellings or Compact Detached Dwellings:
    - 15% minimum landscaping requirement, 25% of which must be active open space
    - Common open space minimum of 640 square feet, no dimension less than 25 feet
    - Active open spaces must include certain features (play structure, sports courts, etc.)
    - Private open spaces may count toward the requirement up to a maximum of 120 square feet per unit

Generally, most developments with less than 8 units are not required to provide open space (except for Compact Detached Dwellings). This means that smaller-scale multi-family or townhome developments would not be required to provide minimum open space, separate from a minimum landscape area. It is important to note that minimum landscaping requirements do not guarantee that usable open space will be created on a site; the landscaping requirements could be met while providing ground cover plants, shrubs, and trees, but no grass lawn or patio.

The city currently requires a rear yard setback of 15-25 feet in residential zones, which helps to ensure that at least a minimum portion of the rear yard is some form of open space. For comparison, the **City of Portland** has a 5-foot minimum rear setback in most residential zones, but it recognizes that the minimum outdoor area standards of the city function in lieu of the rear yard setback, as outdoor areas cannot be in the front setback. This standard also helps to ensure that useable outdoor areas are retained as ADUs are developed. Additional outdoor area is not required for the ADU, but the lot must continue to comply with the standard for the primary dwelling.

Given these considerations, the following options have been developed to address minimum open space standards.

- **Option 1: Require minimum open space for less than 3-7 units of Attached Dwellings or Compact Detached Dwellings.** This would ensure that useable open space is provided in duplexes, triplexes, and small townhome or multi-family developments. The minimum area standard that applies to 4-7 units Compact Detached Housing (300 square feet) is a typical standard for single-family zones, but it may be appropriate to reduce this standard to 200-250 square feet for Attached Dwellings, which may have higher lot coverage and less space

to work with. A minimum dimension of 10-12 feet is also typical and appropriate to ensure that long, skinny spaces are not counted toward the requirement.

- **Option 2: Evaluate open space requirements for developments with 8-20 units.** The current minimum open space standards that apply to projects with 8 or more units of Attached Dwellings or Compact Detached Dwellings may present a barrier to developments on the smaller end of this range. The minimum area and dimensional requirement may make it difficult to accommodate this amount of open space on a smaller site. The requirement that the open space include certain features or amenities can also add costs to the project and constrain site design options. Similar to option 1, the City could consider retaining but lowering the percentage requirements for specific types of open space, or eliminating some of these specific requirements and using a more general landscaping requirement, similar to single-family detached housing.

## 4. BUILDING DESIGN AND ORIENTATON

### Issue and Opportunity

**Issue:** Some housing types may include buildings that are oriented differently than most conventional detached housing. For example, buildings may be oriented toward a common green or courtyard rather than facing the street. Additionally, as noted above, some housing types may be dissimilar in scale and form than existing housing.

**Opportunity:** The city's existing design standards help to prevent some potential issues that could result from buildings that are dissimilar in orientation, scale, and form, in comparison to surrounding houses. However, some design issues may be better addressed by an updated set of standards. Development Code amendments could include new design standards that address specific issues associated with certain housing types. These issues may include the design of main entries, the design of driveways and garages, provision of open space and landscaping, and articulation and variety of building facades.

### Best Practices and Alternatives

#### Building Orientation and Entrances

Duplexes, triplexes, rowhouses, cottage clusters, and other housing types can appear different than single-family detached houses from the street due to the need for multiple entrances and/or the need or desire to orient the entrances to the side, rear, or a courtyard. Many cities that allow for these housing types in predominantly single-family zones apply standards for how buildings and entrances should be oriented. The following options are recommended for consideration.

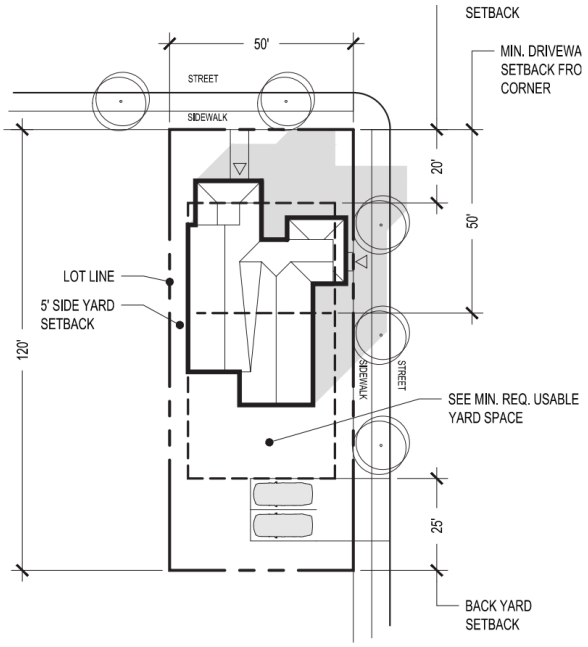
**Option 1: Limit to one entrance per street frontage or a shared entrance.**

The goal of this option is to generally mirror the appearance of a single-family house from the street by limiting any multi-unit building to one entrance per street frontage or creating a shared entrance with an interior hallway or vestibule to access individual units. This approach works well for duplexes on corner lots, which can orient each unit to a different street frontage. This approach may also work well for "stacked" formats of duplexes, triplexes, or other multi-unit buildings, as interior stairwells are needed to access the upper story units, so a shared entrance may be easier to accommodate.

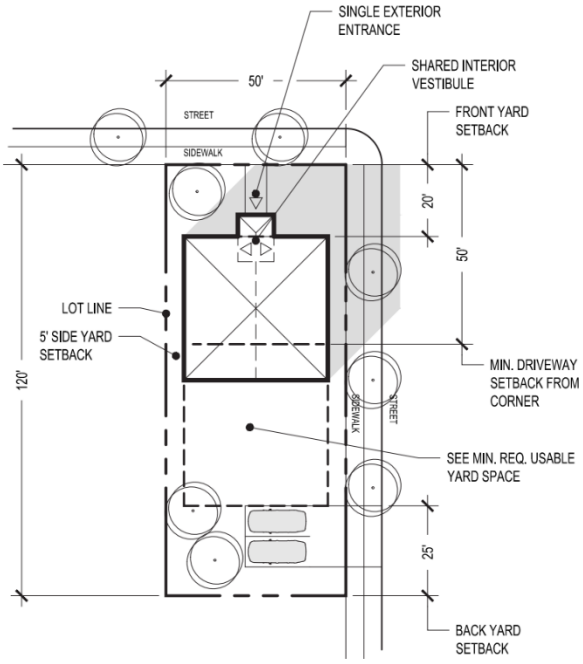
The **City of Tacoma** has adopted this type of requirement for their Residential Infill Pilot Program (see Figure 16). This standard may not work well for a side-by-side triplex, fourplex, or rowhouses, as it would require an internal hallway to access each unit, which may reduce the amount of livable floor area on the site.

*Figure 16. Duplex Entrance Options, City of Tacoma*

*Option 1: One entrance per frontage*




*Option 2: Shared entrance*



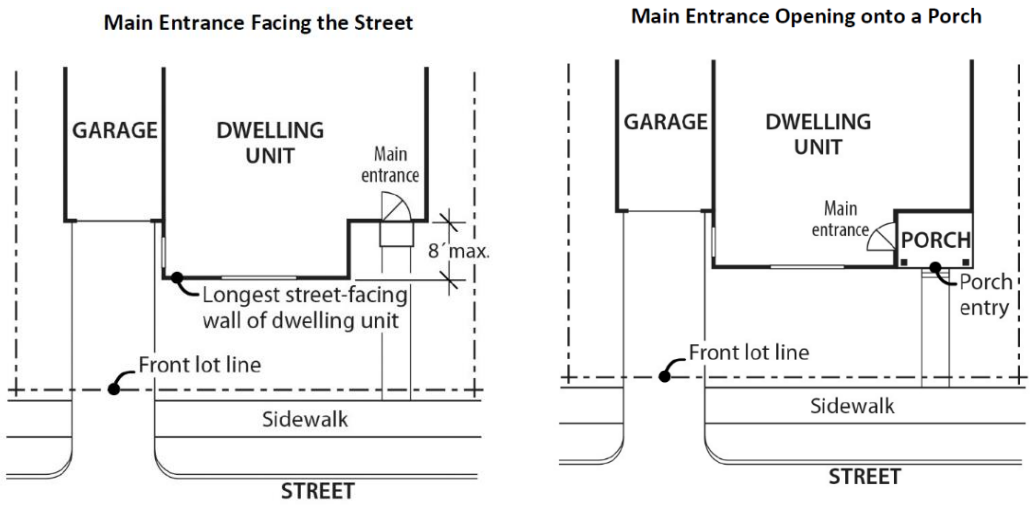

**Option 2: Require <u>at least one</u> entrance to face the street, allow side and rear entrances.**

If limiting the number of entrances that face the street is not a priority, then another option is to require at least one entrance to face the street, and not set standards for the location of other entrances.

The **City of Portland** has adopted this approach. The entrance standards require at least one entrance to the structure (not to each individual dwelling unit) be within 8 feet of street-facing façade and either face the street, be at a 45-degree angle to the street, or open onto a porch (see

Figure 17). This approach ensures that at least one entrance has a clear relationship with the street, while providing flexibility to place entrances to other units on the side or rear of the building. This option may work well for narrow and deep lots, where side-by-side units could be placed behind each other. One disadvantage to this option is that the entrances on the side or rear of the property may cause privacy concerns, as doors to individual dwelling units would face the sides of houses or back yards on neighboring properties. This could be mitigated with a screening requirement.

*Figure 17. Options for Entrance Standards, City of Portland*




**Option 3: Require <u>all</u> entrances to face the street or an interior courtyard.**

If limiting the number of entrances visible from the street is not a priority, and allowing side or rear entrances is not preferable, then the city may require all entrances to either face the street or an interior courtyard. This standard is commonly applied to townhome developments; it is appropriate for this format because townhomes usually have individual lot street frontages. Similar standards are also commonly applied to cottage cluster housing.

For example, the **City of Tigard** requires that 75% of cottages in a cluster have their main entrance face a common courtyard and allows for units within 20 feet of a street lot line to orient to the street and still count toward this standard. This standard may present a barrier to duplexes, triplexes, and fourplexes; however, as it would be difficult to meet on narrower lots, where it may not be possible to fit the units side-by-side along the street or to provide an interior courtyard.

## Parking Location, Driveways, and Garages

The way in which vehicle parking is integrated into a development has a substantial impact on the appearance of the development from the street. Cities that allow a range of housing types in predominantly single-family zones generally apply standards that guide the location and design of parking spaces, driveways, and garages. The following options have been identified as best practices for guiding the design of parking and garages.

**Option 1: Alley access requirement (where alleys are available)**

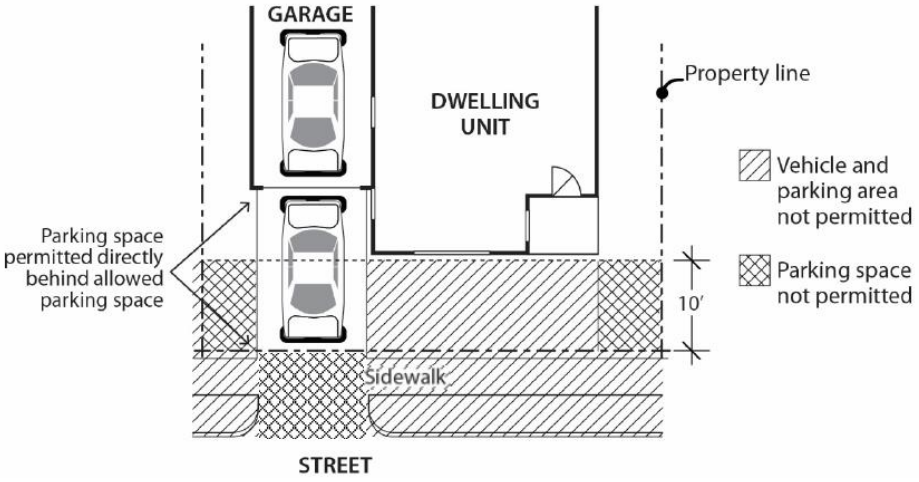
Alley access parking is generally the optimal solution to balance meeting the need for off-street parking while creating attractive and pedestrian-friendly street frontages. Many cities require off-street parking to be accessed from an alley where an alley is available. There are very few existing alleys in Beaverton, however, so this requirement may have limited value.

**Option 2: Front setback requirement**

The city currently prohibits parking spaces to be located in required front yard setbacks, except if the parking space is in a driveway that leads to a garage. Parking between buildings and the street or in the front setback area is generally not preferable as the parking space becomes a prominent feature of the frontage and streetscape. The city's existing requirement generally addresses this issue, but two improvements could strengthen this requirement. These amendments are consistent with the proposed standards for the City of Portland's Residential Infill Project (see Figure 18).

- Require parking space to be behind the front building line, not only outside the front setback. In some cases, a building may set back more than the front setback requires. A parking space to the side of the building may be outside the front setback but a portion or all of the space is in front of the front building line.
- Allow for an additional parking space directly behind any allowed parking space, not only behind a driveway to a garage. This would allow for a parking space behind a parking space that is to the side of a building, but not located in a garage.

*Figure 18. Parking space location standards, City of Portland (proposed)*

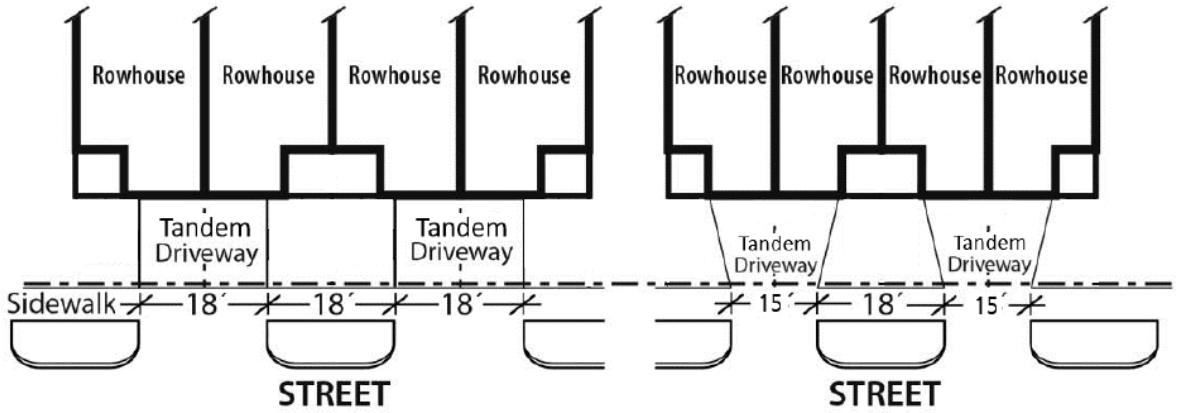



**Option 3: Paired driveway requirement**

Where multiple units are allowed on one lot or very narrow lots are allowed for townhomes, the number of driveways should be minimized to enhance landscaping, preserve enough space for on-street parking, and create a more pedestrian-friendly street. A paired or "tandem" driveway can

help to achieve these goals. The **City of Tigard** requires that front-loaded rowhouse developments create tandem driveways so that a maximum of 1 driveway is allowed for every 2 rowhouse units. The maximum width of a tandem driveway is 18 feet, but it may be as narrow as 15 feet (see Figure 19). A similar standard could be applied to side-by-side duplexes, triplexes, or fourplexes, except that triplexes may require a total of two driveways (one tandem, one individual). There are a number of benefits to this requirement and it has a limited impact on site design options and development feasibility. A key benefit is that is preserves enough space between driveways for on-street parking spaces.

*Figure 19. Access configuration for tandem driveways, City of Tigard*




**Option 4: Garage design standards**

Where garages are used, there are design approaches that can minimize the negative aspect of creating a relatively blank and uninteresting façade. The city currently applies garage design standards to any applications that use the Compact Detached Housing standards. The standards are summarized below and examples of projects that generally illustrate these features are shown in Figure 20:

- Maximum width of garages: 50% of building width or 12 feet, whichever is greater
- Garages must be recessed at least 1.5 feet from the front of dwelling
- No more than two individual garage doors per dwelling.
- Garages shall include one or more of the following features:
    - Garage trellis or pergola extending at least 12 inches from the building face
    - Windows on 15% of the garage door
    - Decorative hardware
    - Natural wood finish
    - A recess of at least three (3) feet
    - Multiple materials finish or colors are used

These standards are similar to many garage design standards adopted by other cities. These standards may be appropriate to modify and apply more widely. They may be required wherever garages are proposed for rowhouses, duplexes, triplexes, cottage clusters and other housing types in residential zones.

*Figure 20. Examples of garage design elements*

*Recessed doors* *Multiple finish materials and windows*

## Façade Design/Articulation

Façade design or articulation standards are a common approach to ensuring that new developments include interesting and varied façades and to discourage or prohibit large expanses of blank walls. The city currently requires any development subject to Design Review to meet a set of standards related to building articulation and variety. In summary, the standards require:

- Attached residential buildings be limited in length to 200 feet.
- In residential zones, building facades within 200 feet of a public street must have "articulating features" that cover 30% of the façade. Articulating features are windows, bays and offsetting walls that extend at least eighteen inches (18"), recessed entrances, loading doors and bays, and changes in material types.
- The maximum spacing between any articulating features is 40 feet.
- Detached and attached residential building elevations facing a street, common green or shared court shall not consist of undifferentiated blank walls greater than 150 square feet in area. Building elevations shall be articulated with architectural features such as windows, dormers, porch details, alcoves, balconies or bays

There are three potential issues with the current set of standards:

- The standards may not consistently result in facades that are varied and interesting. For example, the standards do not require that windows be recessed. Windows that are flush with the plane of the building do add some interest, but do not add a sense of depth and variation in the façade. Similarly, the standards allow for "changes in material type" to qualify as an articulating feature, yet a change from one material to another can be subtle and provide little variation in the façade.
- The standards are relatively complex and could be simplified. The standards require a minimum percentage of the façade to be articulated, maximum spacing between features, and a maximum area of undifferentiated blank walls.
- Some of the standards are somewhat vague and open to interpretation. For example, it is unclear what qualifies as a "porch detail" or how deep an alcove or bay must be to qualify as such a feature. Clarifying the standards would help applicants understand and respond to the standards and help staff administer them.

The following options have been developed for improving or replacing the city's articulation and variety standards. One of the options (Option 5) addresses a separate but related issue of exterior staircases, which can have a significant effect on the façade of a building from the street.

**Option 1: Maintain current standards but clarify the meaning of terms and intended outcomes.**

Under this option, the city would maintain the current standards and ensure they apply to an appropriate set of housing types as they are permitted uses in residential zones (i.e., those permitted outright now or subsequently added to the list of permitted uses). At the same time, the city would propose amendments to clarify the standards and reduce any subjectivity in interpreting how the standards should be applied. If any features are required to recess or project from the façade in order to quality as an "articulating feature", then the depth of the recession or projection should be specified.

**Option 2: Continue to require articulating features but enhance and simplify the standards**

Under this option, the city would continue to require articulating features, but would enhance the standards by limiting the range of qualifying features and simplifying the numerical measurement(s) to make the standards easier to administer. The **City of Portland** proposed a standard as part of the Residential Infill Project that offers an example of this approach. The standard is similar to the city's current standard that limits undifferentiated blank walls to 150 square feet in area, except that windows or other features that are not recessed or projected from the façade do not qualify as an articulating feature. For this reason, the standard allows for a larger area of a "undifferentiated blank wall" because windows would be included in the undifferentiated area. The specific code language is provided below:

> ***D. Façade Articulation.*** *The street facing facade of large structures must be divided into smaller areas or planes. When the street facing facade is more than 500 square feet in area, it must be divided into distinct planes of 500 square feet or less. For this standard, areas of a*

*wall that are entirely separated from other wall areas by a projection, such as the porch or a roof over a porch, are also individual building wall planes. This division can be done by:*

*1. A porch, a dormer that is at least 4 feet wide, or a balcony that is at least 2 feet deep and is accessible from the interior living area;*

*2. A bay window that extends at least 2 feet; or*

*3. Recessing a section of the facade by at least 2 feet; the recessed section must be at least 6 feet wide*

Compared to the city's current standards, there some advantages to this approach. First, it is more likely to result in greater variation in the plane of the façade, as the features that count as an "articulation" must be projected or recessed by at least two feet. Windows that are not recessed or changes in materials would not qualify. Secondly, the standard only requires one measurement – the area of any undifferentiated blank walls—which would make it easier to administer than the current standard, which requires three different measurements.

**Option 3: Require detailed design elements**

In addition to or in lieu of a general articulation standard, many cities aim to achieve varied and interesting facades by requiring each building to incorporate a minimum number of design details from a "menu" or list of elements. These design details may include some of the "articulating features" listed above, but may also include a wider range of elements, such as eaves, gables, pillars or posts, cupolas, window trim, window grids, or specific exterior siding materials. For example, the **City of Bend** requires at least six of twelve architectural features to be included on all street-facing elevations of multi-family buildings (Figure 21). The City of Beaverton currently adopts a similar approach as part of the Compact Detached Housing standards (see BDC 60.05.15.9.H).

*Figure 21. Detailed Design Elements, City of Bend*

*Dormers*
*Recessed entries*
*Cupolas*
*Eaves (minimum 12-inch projection)*
*Bay windows*
*Balconies*
*Gables*
*Covered porch entries*
*Pillars or posts*
*Window trim (minimum four inches wide)*
*Decorative patterns on the exterior finish using shingles, wainscoting, board and batt.*
*Offsets in the building face or roof by a minimum of 18 inches*

An advantage of this approach over the general articulation standard is that it requires design elements that may not provide articulation of the façade but can help to create a more interesting and varied façade. This includes elements such as window trim, eaves, and siding materials with a more decorative pattern or texture.

Another advantage of this approach is the requirement can be easily modified to respond to the different housing types, building forms, or neighborhood contexts. For example, the **City of Oregon City** has a list of 22 residential design elements, but the number of elements that are required for any development depend on the housing type, the location (interior vs. corner lot), and the width of the garage as a percentage of the front-facing façade.[2] For instance, the city requires horizontally attached three- and four-plexes to follow single-family façade design standards, while those that are vertically attached must follow multi-family design standards. Oregon City has also developed a point-based system for their cottage cluster housing, requiring a minimum of five points per unit and awarding more points for more desirable features.

A potential disadvantage of this approach is that it may too narrowly constrain architectural design styles. If all developments must incorporate certain elements from a set list, it is possible that many new developments will incorporate at least some or many of the same features, which could result in less variety in architectural style generally. Alternatively, this approach could also result in more consistency and compatibility between existing and new development.

**Option 4: Require minimum window coverage in addition to façade articulation.**

In residential zones, the city does not currently require a minimum proportion of a façade be dedicated to windows. Windows may be used to meet the articulation standards, but are not required, so the standard could be met without providing windows. In addition to helping to create more interesting facades, windows also have the benefit of enabling more “eyes on the street”, which can have benefits for crime prevention and perceptions of safety in residential areas, and allowing more natural light into the interior of the home. Some cities require a minimum portion of street-facing façade be covered with windows, in addition to other design standards. For example, the **City of Tigard** generally requires a minimum of 15% window area on all street-facing facades.

**Option 5: Prohibit or limit exterior staircases**

Long runs of exterior staircases that are not built into the grade of the property, but rather supported by an exterior structure, tend to become a dominant feature of the façade (see Figure 22). Exterior stairs are more likely to be used in a small lot or narrow lot detached houses because they can allow direct entry to the living space above a garage, and the living space can be larger than if it was on the same level as the garage. Also, a duplex, triplex, or other multi-unit building would be more likely to use an exterior staircase to provide direct entrance to an upper floor unit.

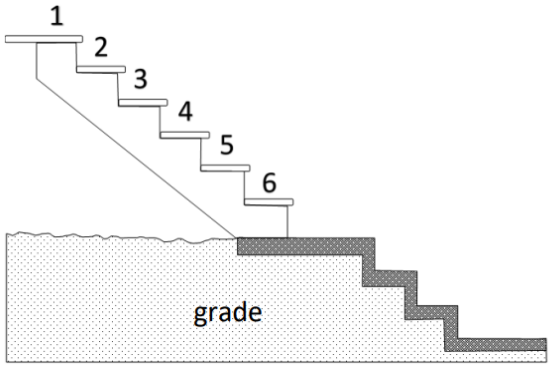
[2] For more detail, see Chapter 17.14 of the Oregon City Municipal Code

*Figure 22. Examples of exterior staircases on a street-facing facade*

Given their impact on the street façade, some cities prohibit or limit exterior staircases in residential zones. The **City of Portland** has proposed the following standard (also see Figure 23).

> ***Exterior stairs.*** *On any street facing façade, no more than six steps in an exterior stairway may be supported by an above grade structure. All other exterior stairs must be built into the grade. Sites located within the Special Flood Hazard Area are exempt from this standard.*

*Figure 23. Limitation on Street-Facing Façade Stairs*



## 5. NEIGHBORHOOD PATTERNS

### Issue and Opportunity

**Issue:** Many residential neighborhoods or subareas in the city exhibit patterns that are consistent throughout the area and help to create identity and a sense of place. These patterns may include sizes and shapes of lots and buildings, architectural styles, materials, or relationship of the house to the street. Some patterns may be consistent with other neighborhoods in the same residential zone, while other patterns may vary across neighborhoods. If amendments to design or development standards are applied uniformly throughout the zone, the amended standards may not always be consistent with established patterns. Additionally, some patterns may be important to extend with new development while other patterns are less important to preserve.

**Opportunity:** The city can utilize this project to identify neighborhood patterns that are important to preserve and extend with new development. To the extent that important patterns vary across neighborhoods in the same zone, neighborhood-specific standards could be developed. These standards can help to preserve the essential features of neighborhoods while integrating a wider variety of housing types and options.

### Best Practices and Alternatives

#### Additional Base Zones

If the neighborhood patterns that are important to preserve are mainly related to lot sizes, building sizes or heights, bulk or massing, housing types, or other features that are typically regulated by use or development standards, then the most effective and efficient approach to varying these areas may be to create additional base zones. The alternative approach—an overlay zone, plan district, or a special exception to a regulation in a base zone—is appropriate to apply in limited areas, but this approach can become complicated and make the code difficult to understand and administer, especially for residents.

The **City of Denver** offers an example of zoning code that provides a wide variety of residential base zones that respond to different neighborhood patterns. Denver's zoning code is described as being both "context-based" and "form-based". The zoning districts are organized around five neighborhood context categories that represent the existing and desired characteristics for that area: Suburban, Urban Edge, Urban, General Urban, Urban Center. Within these broad categories, zones are organized by the dominant building form and either the minimum lot size or maximum building height. See Figure 24 for a table that provides an overview of how zones are designated to incorporate these multiple variables. The City of Beaverton's Comprehensive Plan Designations and implementing zoning districts are organized in a similar manner, but the Denver system allows for additional variation and more fine-grained zoning districts by incorporating variables such as neighborhood context and building form.

*Figure 24. City of Denver Zoning Districts – Naming Convention System*

| FIRST LETTER | SECOND LETTERS | THIRD LETTER OR THIRD NUMBER | OCCASIONAL LAST NUMBER OR LETTER | EXAMPLES |
|---|---|---|---|---|
| **Neighborhood Context** | **Dominant Building Form and Character** | **Minimum Zone Lot Size in square feet or Maximum Building Height in stories** | **Special Purpose** | |
| S = Suburban<br>E = Urban Edge<br>U = Urban<br>G = General Urban<br>C = Urban Center | SU = Single Unit<br>TU = Two Unit<br><br>RH = Row House<br>MU = Multi Unit<br>RO = Residential Office<br>RX = Residential Mixed Use<br>CC = Commercial Corridor<br>MX = Mixed Use<br>MS = Main Street | Minimum Zone Lot Size<br>A = 3,000<br>B = 4,500<br>C = 5,500<br>D = 6,000<br>E = 7,000<br>F = 8,500<br>G = 9,000<br>H = 10,000<br>I = 12,000<br><br>Heights<br>2 = 2 stories<br>2.5 = 2.5 stories<br>3 = 3 stories<br>5 = 5 stories<br>8 = 8 stories<br>12 = 12 stories<br>16 = 16 stories<br>20 = 20 stories | When there is a number or letter at the end of the zone district name, that is an indicator of special regulations. Refer to the zone district regulations for more detail. Typically:<br><br>1 = Accessory dwelling units allowed throughout<br><br>2 = Accessory dwelling unit and duplexes allowed on certain corners<br><br>x = Special provisions tailored to that zone district<br><br>A = Special provisions, especially design standards or allowed building forms, tailored to that zone district | U-SU-A:<br>Urban Neighborhood Context, allows single units and the minimum zone lot size is 3,000 sf<br><br>U-SU-A1:<br>Urban Neighborhood Context, allow single units, a minimum lot size of 3,000 sf and allows accessory dwelling units<br><br>G-MU-3:<br>General Urban Neighborhood, allows up to multiple family uses with a maximum height of 3 stories<br><br>C-MX-5:<br>Urban Center Neighborhood, allows a commercial and residential uses with a maximum height of 5 stories. |

*Figure 25. Partial List of City of Denver Residential Zone Districts*

| SUBURBAN NEIGHBORHOOD CONTEXT | | URBAN EDGE NEIGHBORHOOD CONTEXT | | URBAN NEIGHBORHOOD CONTEXT | |
|---|---|---|---|---|---|
| S-SU-A | Single Unit A | E-SU-A | Single Unit A | U-SU-A | Single Unit A |
| S-SU-D | Single Unit D | E-SU-B | Single Unit B | U-SU-A1 | Single Unit A1 |
| S-SU-Fx | Single Unit Fx | E-SU-D | Single Unit D | U-SU-A2 | Single Unit A2 |
| S-SU-F | Single Unit F | E-SU-Dx | Single Unit Dx | U-SU-B | Single Unit B |
| S-SU-F1 | Single Unit F1 | E-SU-D1 | Single Unit D1 | U-SU-B1 | Single Unit B1 |
| S-SU-Ix | Single Unit Ix | E-SU-D1x | Single Unit D1x | U-SU-B2 | Single Unit B2 |
| S-SU-I | Single Unit I | E-SU-G | Single Unit G | U-SU-C | Single Unit C |
| S-RH-2.5 | Row House 2.5 | E-SU-G1 | Single Unit G1 | U-SU-C1 | Single Unit C1 |
| S-MU-3 | Multi Unit 3 | E-TU-B | Two Unit B | U-SU-C2 | Single Unit C2 |
| S-MU-5 | Multi Unit 5 | E-TU-C | Two Unit C | U-SU-E | Single Unit E |
| S-MU-8 | Multi Unit 8 | E-RH-2.5 | Row House 2.5 | U-SU-E1 | Single Unit E1 |
| S-MU-12 | Multi Unit 12 | E-MU-2.5 | Multi Unit 2.5 | U-SU-H | Single Unit H |
| S-MU-20 | Multi Unit 20 | E-RX-3 | Residential Mixed Use 3 | U-SU-H1 | Single Unit H1 |

This general idea could be modified to work within the City of Beaverton's existing residential zones. For example, new base zones could be created to designate where additional housing types are permitted or to apply differential development standards such as lot coverage or FAR. These zones may preserve many of the regulations that currently apply, such as minimum lot area, while allowing for variation as needed to respond to differing neighborhood patterns within existing zones.

## Overlay Zones and Plan Districts

An alternative approach to creating additional base zones is to create new overlay zones or plan districts. An overlay zone or plan district can modify the regulations of a base zone by superseding some standards or applying additional standards or requirements. Many cities across the Portland metro area use overlay zones or plan districts widely to modify base zone standards. The two terms are often used interchangeably but overlay zones are more often used with natural resource or hazard areas (such as floodplains, wetlands, or steep slopes) while plan districts are usually applied to implement a specific subarea, neighborhood, or community plan.

The **City of Hillsboro** uses plan districts to implement special standards in certain areas, several of which are predominantly residential areas, such as the Orenco Plan District, AmberGlen Plan District, and South Hillsboro Plan District. Each of these plan districts are intended to implement a specific subarea or community plan for the area. Plan district standards supersede base zone standards and general standards, but are subordinate to special use standards and overlay zone standards.

The City of Beaverton does not currently use overlay zones or plan districts to implement area-specific regulations. Creating a new overlay zone or plan district may require some organizational changes to the city's development code to be implemented. An overlay zone or plan district may be more appropriate if the neighborhood patterns that are intended to be preserved related to design features or standards, architectural style, or exterior materials. Additional base zones may be more appropriate for responding to patterns that relate to use regulations or development standards, such as housing types, bulk, height, or setbacks.

## Context-Specific Standards in Existing Zones

Another option for addressing varying neighborhood patterns within the same residential zone is to write development standards that would adjust depending on the context of a proposed development. There are generally two ways to approach this type of standard, as outlined below:

- **Option 1: Specify geographic areas within existing zones and write standards specific to those areas.** This approach would function similarly to an overlay zone but would not require a formal overlay zone in the development code. The standards would be included in a section of the base zone chapter. A map may need to be incorporated into the development code or comprehensive plan in order to specify the geographic area.
- **Option 2: Require applicants to collect or review information on existing conditions near the proposed development and adjust standards based on conditions in this specific context.** For example, the applicant may have to collect information on building heights, setbacks, and lot coverage for all houses within 100 feet of the site, and standards would be adjusted based on these conditions. This approach requires more effort and potentially expense for the applicant but may result in standards that are better tailored to the specific

context. The city may be able to compile a database of this information that applicants can access and use, rather than requiring the applicant to supply the information.

## 6. TREE PLANTING AND PRESERVATION

### Issue and Opportunity

**Issue:** There is a potential concern that permitting a wider variety of housing types and higher residential densities could negatively affect natural resources, including floodplains, wetlands, stream corridors, and trees.

**Opportunity:** The Development Code requires that all new development meet standards intended to preserve the function and values of natural resources. This includes standards for how and where development is permitted in floodplains; standards for the protection of wetlands, stream corridors, and associated sensitive areas, which are jointly administered with Clean Water Services through the environmental review process; and standards for the preservation of significant trees and tree groves. Some mature trees, classified Community Trees, are not mapped in the city's inventory of significant trees, however, and are not protected. There may be an opportunity to require or incentivize preservation of Community Trees where new housing types are permitted, but new requirements will need to be balanced with the goal to remove barriers to development of wider variety of housing types.

### Best Practices and Alternatives

#### Tree Preservation and Planting – Community Trees

The following tree planting and preservation options have been developed to address the desire to strengthen tree preservation requirements or incentives for Community Trees.

**Option 1: Require tree planting or preservation based on tree density**

This approach would require the minimum number of trees to be preserved or planted based on a uniform tree density standard, not based on how many trees currently exist on the site. The tree density may be related to the size of the required landscaped area, per the minimum landscaped area standards that apply to the proposed development, or the overall size of the lot. The City currently requires tree planting in required landscaped areas for development subject to Design Review at a rate of 1 tree for every 800 square feet of required landscaping area. Design Review would be required for many housing types contemplated by this project, but this requirement may need to be modified, and it currently does not apply to ADUs. This standard would need to be assessed to determine if it results in sufficient tree density and meets tree preservation goals.

The **City of Oregon City** provides an example of a similar approach. The city requires a set tree diameter (total diameter of all trees on the site) to be protected, planted, or paid into the tree fund

(fee-in-lieu) based on the size of the lot (see Table 4). The option to pay into a tree fund is not available as part of the City of Beaverton's current Design Review requirements. Multiple options can be used to meet the minimum requirements (e.g. preserve some trees and plant mitigation trees on the same site):

- Tree Preservation: Preserve enough trees on the site to meet the minimum diameter required for the lot.
- Tree Planting: Plant enough trees to meet the required diameter for the site. The trees planted must be a minimum of 2-inch caliper and may be planted anywhere on the site.
- Tree Fund: When preservation or planting is not an option based on site characteristics or construction preferences, an applicant may pay a fee-in-lieu.

*Table 4. Tree Planting and Preservation Requirements, City of Oregon City*

| Lot Size (sq. ft.) | Tree Diameter Inches Required to be Protected, Planted or Paid into Tree Fund |
|---|---|
| 0 - 4,999 | 4" |
| 5,000 – 7,999 | 6" |
| 8,000 – 9,999 | 8" |
| 10,000 – 14,999 | 10" |
| 15,000 + | 12" |

Although the standards are not directly correlated to the site's existing tree density, the city provides an incentive to preserve larger trees on the site. If large native or heritage trees (a list of species is provided) on the site are preserved, the diameter of the tree is doubled when counting towards the minimum required tree diameter for a site.

An advantage to this approach is that tree density requirements are not influenced by the number of existing trees on the site prior to development or redevelopment, so it does not create a greater burden or a development barrier for an owner of site with more trees than other sites. The disadvantage of this approach is that it may result in more trees being removed than Option 2 (mitigation) because the tree density standard may not exceed the number of trees that would be required in order to meet a tree mitigation standard.

**Option 2: Require mitigation for tree removal in addition to a tree density standard**

If it is a priority to preserve tree density or canopy at higher rate than what would be required for tree plantings with new development, and to incentivize the preservation of large mature trees, then a tree mitigation standard may be appropriate.

The **City of Portland** offers an example of this approach (see Chapter 11.50 Trees in Development Situations). Generally, the city requires that at least 1/3 of existing trees over 12-inch DBH be retained when development is proposed. For any tree not retained under the 1/3 requirement, the applicant must pay a fee to the City's Tree Planting and Preservation Fund. The amount of the fee is

scaled based on the size of the tree removed. Additionally, if the applicant proposes to remove any trees over 36” DBH, the applicant must post a notice sign on the site and send a notice to the local neighborhood association. The City also applies a minimum tree density standard for new development, similar to the approach outlined under Option 1. Trees preserved to meet the mitigation requirement can also be counted toward the tree density requirement. However, if the mitigation requirement exceeds the tree density requirement, then mitigation is still required.

This approach may result in more trees being preserved than Option 1, as sites with a high number or size of existing trees would be subject to a higher tree preservation or mitigation standard, which would incentivize tree preservation. The disadvantage to this approach is that it places a greater burden or potential development barrier on these property owners.