Providing for Usable Open Space for Multifamily Developments

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Municipal Research and Services Center of Washington (MRSC) Planning Advisor

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This is the second of two articles published by the Municipal Research and Service Center discussing regulatory strategies to address two challenges to creating compatible and livable infill development. The first article, published in February 2011, discussed strategies for protecting existing neighborhoods from the impacts of new development. This article describes concepts for providing usable on-site open space in new multifamily developments.

Introduction

Smart growth principles call for the development of more intense mixed-use centers at transportation hubs or other strategic locations plus multifamily infill in neighborhood centers. Demographic changes in concert with fuel costs are increasing the demand for compact multifamily housing in Western Washington and throughout the country. With rising land costs, cities are finding it increasingly difficult to create new parkland to serve this increased density. Thus, it’s becoming increasingly important for cities to update regulations to provide for usable on-site open space associated with multifamily development.

This article examines:

- The goals and benefits of providing on-site multifamily open space
- Research and resources
- Notable challenges in providing on-site open space
- A comparison in how a few Washington cities regulate open space
- Lessons learned/considerations
What are the Goals (and Benefits)?

A reasonable goal for any city should be to provide residents with access to usable open space for recreation and leisure activities. While this is important for all age groups, usable open space is particularly important for children. On-site open space associated with residential development brings a number of other benefits toward creating healthy and livable communities. Below is a sample of some of the more notable benefits:

- **Health benefits** – pathways and recreational facilities such as play areas, swimming pools, and fitness centers promote increased physical activity. Balconies and common areas also offer opportunities for gardening and growing a small amount of herbs, fruit, and/or vegetables;

- **Enhanced residential setting** – this includes an increase in light and air to dwelling units surrounding the common open spaces and enhanced views from units. Where landscaped open spaces are visible from the street or adjacent properties, they bring obvious enhancements to the community's character as well. Courtyard spaces can also offer increased privacy through the strategic configurations and the placement of windows and landscaping;

- **Environmental benefits** – ground level and courtyard spaces and even rooftop decks offer opportunities for trees and plants which consume carbon dioxide and help to reduce stormwater runoff;

- **Social benefits** – well-designed common open spaces provide increased opportunities for social interaction with neighbors;

- **Safety** – common open spaces that incorporate CPTED principles (Crime Prevention Through Environmental Design) increase the number of "eyes on the space" by allowing families to keep an eye out on children and for residents to be on the lookout for crime; and

- **General functional benefits** – spaces such as balconies can provide a wide range of other functional benefits to residential living. This can include a space to hang-dry clothing, space to barbecue, or conduct certain cleaning or other activities that are difficult to do indoors.

The common open spaces at the coordinated Z-home (first net zero energy multifamily development in the country) and YWCA development in Issaquah Highlands provide for multiple functions. This includes recreational benefits, visual amenities, increased solar access to adjacent units, and low impact development techniques used in the common areas help to manage stormwater impacts from the development on the site.
What are the challenges to providing usable open space?

Below are the challenges that are most often cited to providing usable on-site open space.

- **Lack of space.** This challenge is most notable on smaller sites in heavily urbanized sites where land costs are high. Developers can argue that carving out open spaces reduces the opportunity for rental or sales income. However, the typical configuration of residential buildings on city blocks nearly always leaves plenty of left-over space to accommodate courtyard spaces between buildings and building wings. For constrained infill sites where generously sized courtyards may not be possible, a combination of balconies, rooftop decks, and/or indoor common open space may be sufficient to satisfy open space needs for residents.

- **Cost.** The cost of designing and building the open spaces affect the bottom line of developments in two ways. Yes, they do add costs to development, but they also help to bring in revenue in terms of sales and/or increased rental rates due to the amenities they create for residents. Ultimately, open spaces don’t need to be expensive. The usability of open spaces is often best determined by the basic configuration of spaces and the relationship of units, windows, building walls, and simple landscaping elements. Much of this comes from thoughtful design rather than expensive materials and furnishings.

- **Maintenance.** This is a critical factor in the long term usability of common open spaces. While there are obvious costs associated with maintenance, the design of open spaces can help to reduce ongoing maintenance costs. Where residents have good access to the open spaces and frequently use them, there’s a certain amount of self-maintenance that occurs. But maintenance needs to be built into the costs of the development, just as other amenities factor into the rents that residents are willing to pay to live in particular developments.

What Other Literature is out there on Multifamily Open Space?

While much has been written about public open space, literature on the benefits of private on-site open space is surprisingly hard to find. The most common source of information available is within municipal design guidelines and standards. But outside of brief intent statements, guidelines, and graphic examples, an in-depth discussion on the benefits and characteristics of multifamily open spaces are most often left to books and literature.

Some notable sources of information on the design and/or benefits of multifamily open space include:

- **Housing as if People Mattered** and **People Places** (Cooper Markus and others). These two books – especially *Housing as if People Mattered* – are the best and most extensive studies of private residential open space that I’ve found. While the photo examples and graphics feel a little outdated, the contents and design guidelines, which touch on the full range of open space issues, are still spot on. Both books place a strong emphasis on the special needs of families with children.

- **Site Planning** (Lynch and Hack). This classic includes excellent guidance on housing design and discusses outdoor space needs for residents, notably for children and teenagers (which they note are often forgotten in housing design). The book states that “it is better to distribute a varied set of play opportunities in many locations rather than to concentrate them in one area.” Lynch and Hack discuss the importance of balancing visibility with privacy and the unique needs of individual housing types.

- **Pattern Language** (Alexander, Ishikawa, Silverstein). Another classic, this book includes a wealth of ideas in creating livable environments. It includes chapters on the various housing types, the needs
of different age groups and families, and the design of a wide range of outdoor spaces associated with housing.

- **Form-Based Codes** (D. Parolek, K. Parolek, and Crawford). This includes a brief section on internal open space and provides guidance on courtyard design. The authors consider appropriate dimensions based on solar access and adjacent building heights and whether the courtyard is on the ground or on a podium over parking.

There are surely other resources that I haven’t stumbled upon – therefore please comment if you recommend another great resource on multifamily open space design/needs.

### Comparing How Pacific Northwest Cities Regulate Multifamily Open Space

As part of writing this article, I wanted to take a closer look at how some western Washington communities regulated internal multifamily open space. This ultimately included Seattle, Tacoma, Bellevue, and Redmond. Each city’s approach differs somewhat from the others. Also, all four cities recently updated at least some of their applicable standards.

Since each city has a variety of zones that allow for multifamily housing, I’ve divided the following chart into the segments - by housing type: apartments (single purpose), apartments in a dense mixed-use setting, and townhouses. For each city, the chart addresses the amount of open space required, design-related requirements, applicable design review process, and finally some comments and observations.

#### Comparing Multifamily Open Space Requirements

<table>
<thead>
<tr>
<th>City</th>
<th>Seattle</th>
<th>Tacoma</th>
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<th>Redmond</th>
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<tbody>
<tr>
<td><strong>Housing Type – Apartments (single purpose multifamily uses)</strong></td>
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<tr>
<td>Applicable zones?</td>
<td>Lowrise zones</td>
<td>R-3 – R-5 zones and commercial zones</td>
<td>R-10-30 zones, R-12 to R-30</td>
<td></td>
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<tr>
<td>Standards influencing amount and type of open space</td>
<td>Open space standards plus setbacks, density limit, parking, floor area ratio (FAR), building/ façade width limits &amp; Green Factor provisions</td>
<td>Usable yard space plus setbacks, minimum lot size, parking, density limit (R-4L zone only), and landscaping standards</td>
<td>Multifamily play area standards plus setbacks, density limit, parking, lot coverage, impervious area, greenspace standards (front yard), and landscape standards</td>
<td>Specific open space standards plus setbacks, landscaping, parking, lot coverage, impervious area, and impervious surface standards</td>
</tr>
<tr>
<td>Open space required/unit</td>
<td>L1 zone: 300sf common open space/unit (average) L2-4 zones: 25% of the lot area as open space at ground level – except 50% can be balconies/decks for L3-4 zones</td>
<td>10% of the lot size (R zones – but not C zones); C-zones – 10% of site not covered by buildings must be landscaped</td>
<td>Emphasis on children’s play areas – 800sf/10 units plus 50sf/unit above 10 units</td>
<td>Minimum 20% of lot</td>
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<tr>
<td><strong>Required standards for open space</strong></td>
<td>Common open space – min 10’ dimension and 250sf area; may be in front, side or rear yard; Balcony/deck – min 6’ dimension + 60sf area</td>
<td>Usable yard space – min 15’ dimension; May not be in front yard; May be any combination of private &amp; shared space</td>
<td>800sf min size and min. dimension of 25’; Design standards on accessibility, amenity elements and separation from auto areas</td>
<td>All yards + decks and porches may count as open space provided they have minimum 15’ dimensions; For multi-lot developments, standard can be applied for whole development</td>
</tr>
<tr>
<td><strong>Design guidelines/review process</strong></td>
<td>Design review required for projects over certain size threshold or for projects seeking design departures</td>
<td>No existing design guidelines or review process (although MAKERS recently conducted a study for examining options for city to consider)</td>
<td>No design guidelines or other design review process for the R-zone development</td>
<td>25% of open space for large developments must be as common open space; includes guidelines for common open space and landscaping design; Design review process for all multifamily</td>
</tr>
<tr>
<td><strong>Comments and observations</strong></td>
<td>New code generally reduces the amount of open space required – but has a greater emphasis on the design/usability of the space; Recent increase in “green factor” requirements is more challenging/ costly to applicants</td>
<td>Other than dimensional standards noted above, there are no standards/guidance for multifamily open space in the standard commercial zones</td>
<td>Unique in that focus is only on children’s play areas; No mention of balconies or other usable open space provisions.</td>
<td>For citywide standards, biggest emphasis on variety of site and building design</td>
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</tbody>
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**Housing Type – Apartments (higher intensity mixed-use zones)**

<table>
<thead>
<tr>
<th>Applicable zones reviewed</th>
<th>Commercial zones</th>
<th>Various Mixed-Use Center districts</th>
<th>Downtown zones and Bel-Red corridor zones</th>
<th>Downtown zones, Overlake Village zones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standards influencing amount and type of open space</strong></td>
<td>Amenity area plus setbacks, density limit, floor area ratio, parking, and green factor provisions</td>
<td>Yard space standards plus density minimum, parking, mass reduction standards, and landscaping standards</td>
<td>Floor area ratio (FAR), max floorplate standards, tower stepback provisions, sidewalk/building relationship, parking, and FAR bonus incentive provisions (some relate to outdoor open space)</td>
<td>Minimum open space standards, parking, setbacks and max floor area ratio standards</td>
</tr>
<tr>
<td><strong>Open space required/unit</strong></td>
<td>Commercial zones: 5% of residential floor area (amenity area)</td>
<td>100sf/unit yard space</td>
<td>No specific requirement for Downtown or the Bel-Red Corridor</td>
<td>Downtown – 100sf common open space/unit + min 50sf private open space/unit; Overlake – 6.25% of gross residential floor area as open space</td>
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<tr>
<td>Housing Type: Townhouses</td>
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<td>Applicable zones?</td>
<td>Lowrise zones</td>
<td>R-3 – R-5 zones; Mixed-use zones</td>
<td>R-10 – R-30 zones</td>
<td>R-12 to R-30 zones, plus Downtown &amp; Overlake Zones</td>
</tr>
<tr>
<td>Standards influencing amount and type of open space</td>
<td>Open space standards plus setbacks, density limit, floor area ratio, green factor, and building/ façade width limits</td>
<td>Usable yard space plus setbacks, minimum lot size, and density limit</td>
<td>There are no standards specific to townhouses – see open space standards referenced above for apartments in multifamily zones</td>
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<tr>
<td>Open space required/unit</td>
<td>300sf private ground level space (avg) with min dimensions of 10’</td>
<td>10% of the lot size in R-zones; 200sf/unit yard space in MX zones</td>
<td>There are no standards specific to townhouses – see open space standards referenced above for apartments in multifamily zones</td>
<td>For Downtown – Townhouses with at least 200sf of private open space and minimum dimension of 10’ are exempt from common open space standards.</td>
</tr>
<tr>
<td>Required design standards for open space</td>
<td>Space must be directly accessible to unit; For sloping lots, decks can qualify as ground level space</td>
<td>Usable yard space – min 15’ dimension; may not be in front yard</td>
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<tr>
<td>Design guidelines/review process</td>
<td>Administrative design review required for all townhouses; Process may allow some flexibility in the amount and design of open space</td>
<td>No existing design guidelines or review process (although MAKERS recently conducted a study for examining options for city to consider)</td>
<td>The 20% open space with min. 15’ dimensions seem very restrictive and challenging; Planner Jeff Churchill noted that there isn’t a lot of undeveloped R-12-30 zoned land left in the city</td>
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</tr>
<tr>
<td>Comments and observations</td>
<td>Updated standards and administrative design review process provide greater flexibility than old standards and focus more on the quality of open space</td>
<td>New townhouse standards in MX zones addressed serious shortcomings, but the R-3-5 zones outside of MX centers still lack open space standards/guidance</td>
<td>The setbacks and lot coverage provisions will be most influential for townhouses (other than basic market conditions); The play area provision ensures that there will be some common open space</td>
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**Comments and Observations on Regulatory Research**

**Seattle**

With by far the largest pool of development test cases in Washington and the most intensive multifamily zoning code update process, the inclusion of Seattle in this study is essential. I met with Mike Podowski, the City’s Land Use Policy Supervisor, to talk about this article, the City’s recent update, and some lessons learned. Mike reiterated that is was important for the new code to add more flexibility while enhancing the design criteria and making some refinements to the review process (notably for townhouses). Like Seattle’s new code, he suggested my research table above compare different open space requirements based on the type of housing. He was also curious about research on the benefits of providing for open space.

Seattle’s new code substantially reduces the amount of required open space in many cases, but adds greater emphasis on the quality and usability of the open space. I talked about the new code with architect Radim Blazej (Caron Architects), who is familiar with both the old and new codes. Radim reiterated that the added flexibility in the code regarding open space dimensions makes the code much easier to work with. For example, he indicated that the opportunity to provide up to 50% of the usable open space on the roof was an attractive opportunity. He’s found that such rooftop spaces are most desirable for residents in the more urbanized settings due to the view potential and sense of privacy.
**Tacoma**
The City’s previous code (up to 2008) had basically no open space standards. As a result, there are a number of developments (particularly in the greater downtown area) that provide no open space or poorly designed open space. As part of a citywide “Design Review Project,” I had a chance to work with the City (with MAKERS) to examine the shortcomings and propose solutions. This project included the following components:

- A study on the establishment of a design review program. The project reviewed numerous examples and identified a number of optional approaches that might work for Tacoma.
- Updating the design standards for the various mixed-use zones (adopted 2008).

Without a special design review process in place, there was a strong desire to adopt prescriptive standards to address open space and other design shortcomings. While this approach offers less design flexibility, the standards offer a number of choices in how their requirements can be met. The newly adopted standards are reflected in the chart above in the city’s mixed-use center zones only.

**Bellevue**
Bellevue’s regulatory approach stands out as the most unique of the four communities particularly because the city has very few established standards for private open space in multifamily developments. The City’s design standards and guidelines for the most densely developed areas (Downtown and the Bel-Red Corridor) place much greater emphasis on providing publicly accessible open spaces – in addition to providing guidance for the form and character of development. Other specific comments and observations:

- The recent Bel-Red Corridor Design Guidelines are the most recent guidelines project undertaken by the city, and thus represent the latest in thinking about urban design in the city. The Bel-Red code emphasizes form-based standards and includes an extensive density bonus system that includes incentives for public open space. The guidelines include numerous photos of acceptable and unacceptable design examples addressing streetscape elements, building form/character and design details, but they don’t specifically address private residential open space. Perhaps with the approach in emphasizing high quality streetscape and public open space, there is a reduced need to regulate the amount and type of private internal open space for multifamily?
- As a Bellevue resident, I often explore new jogging routes all over downtown. I’ve found that downtown’s super block configuration often leaves a considerable amount of land for public open space, given the natural (and/or regulatory) limitations on tower floor-plates and the extent of underground parking. Or, perhaps this open space is the result of the city’s policies, guidelines and standards? Likely, it’s a combination of both.
- Most apartment/condo developments in downtown appear to have a good mixture of internal open spaces including balconies, ground level plazas, upper level courtyards over parking decks (there are many), some internal recreational space, and some roof top decks (at least that I know about). The smaller infill mid-rise developments appear to have the smallest amount of open space – a situation common in nearly all urban centers in the region.
- Emil King, the City’s Strategic Planning Manager, noted that perhaps there was a reduced need for on-site private open space within developments that are adjacent to public parks or plazas (and I agree). He mentioned projects adjacent to the Downtown Park and the smaller Ashwood Park and Plaza as good examples.
Redmond
Having met with planner Jeff Churchill several times over the past couple years, I was aware that Redmond was in the midst of a major zoning code update and had recently adopted new zoning and design standards for the Overlake area. Additional observations and comments:

- The open space standards for the multifamily zones focus primarily on landscaped ground level open space. Jeff noted that these are essentially suburban type standards, but that very little developable land in these zones remains.
- The courtyard dimensional standards for Downtown are noteworthy for their ability to enhance the desirability and usability of such spaces.
- The Downtown open space standards include a “fee in lieu of” open space option, but only for up to 50% of the required common open space.

Some Lessons Learned
First of all, it’s obvious that individual regulations need to suit the unique needs of the community. By this, I mean a combination of local market demographics and unique community characteristics and goals. Some keys in crafting approaches for regulating and designing multifamily open space include:

- **Recognize different needs for different housing types.** Townhomes and other ground based multifamily housing types have different needs than apartment buildings with stacked flats. Regulations need to reflect those inherent differences.
- **Involve local developers, designers, and builders.** It’s always important to talk with the local development community to find out what’s working and get them involved in any process to update development standards.
- **Bigger is not necessarily better.** Communities requiring an excessive amount and/or sizes of open spaces can actually discourage development by impacting the viability of development. The problem is compounded when there isn't adequate design guidance for such spaces. I’ve found it more effective to work with the community in providing guidance in designing usable open spaces and determining the amount of usable open space necessary for livable developments and given reasonable development objectives.
- **Encourage a range of open space types.** This is particularly important for apartment buildings. Visible common open spaces such as courtyards are typically the most important open space resources, but other types of open space should be encouraged.
  - **Balconies** provide a usable private open space resource where residents can barbecue, create a container garden, or sit outside to enjoy the view. While the percentage of time that residents typically spend on balconies is small, it's noteworthy to consider how balconies can allow greater daylight into units and help to expand the perceived living space within the unit. The book *Housing as if People Mattered* suggests that the minimum size of a balcony to be functionally useful is 60 square feet with no dimension less than 6 feet.
  - **Rooftop decks** are becoming an increasingly important resource for infill multifamily developments in heavily urbanized areas. These spaces are more likely to be used where they feature good views, feature a range of amenities, and include design features that enhance accessibility and safety.
- **Pea patches** are a feature that should be increasingly encouraged, in response to a renewed interest in the local food movement. However, the location, design, and management of pea patches are very important to ensure they can be effectively used and maintained. To be sure, they are likely to be used by only a fraction of residents, but they can serve as a visual (and even social) amenity for other residents.

- **Children’s play areas** should always be considered and be required to some extent in larger developments. Like nearly all open space types, visibility to/from adjacent dwelling units is critical.

- **Indoor recreational areas** should also be an option to meet a portion of the total internal open space needs for the development (but not all of it) of infill housing types in more intensive urban areas. These spaces should be specifically designed for recreational activities and be housed in accessible and visible areas.

- **Woonerfs** might also be considered as a usable open space resource in townhouse developments. A woonerf is a Dutch term for a street that is designed equally for pedestrians and automobiles - typically where there is special paving in a curbless design integrated with trees and other landscaped elements that can also function as a playcourt.

- **Consider reduced on-site open space needs for developments adjacent to public parks.** “Adjacent” is the key word, as it’s the direct visibility and accessibility that provide the link.

- **Test the standards.** Consider both existing (if applicable) and prospective multifamily development examples that meet other zoning standards to determine different ways that developers might choose to meet the standards. Assume the worst case scenario – is it good enough? On the other hand, are the requirements overly difficult or costly to meet?

- **Provide examples – both good and bad.** Photos and other graphic examples are helpful for developers, staff, and other participants in the development review process. I've found the bad examples to be just as helpful as the good ones. I also suggest to communities to build a photo library of completed projects that they can share with prospective applicants when needed.

**Common Open Space Examples**
These open spaces above are both built over parking decks - the landscape elements help them function as a green roof while providing for visual and functional amenities to the surrounding units.

The left example above from Bainbridge Island integrates large existing trees into a relatively large "commons" while the right example in downtown Bellevue doubles as usable public open space, as there is a coffee shop to the left.

Obviously bad examples. The space on the left offers no amenities other than grass area - and the slopes reduce the usability of the space for informal recreation. The large blank walls and elevation change between the open space and the dwelling units reduce its attractiveness.
It's obvious that these courtyards are much too narrow to function as usable open space. The design severely limits the direct sunlight available to the space and also reduces the solar access and privacy to the adjacent units.

Other Open Space Examples

Attractive rooftop open space (left) and a pea patch example (right). The pea patch is at the Alycone Apartments in South Lake Union, Seattle. It's situated on an upper level deck, but visible from dwelling units on both sides, very accessible, and receives ample morning and afternoon sunlight. When I visited the development last year, there was a waiting list for residents to get one of the small plots. You can see the rain barrels in the background, which include rain water from adjacent roofs and provide a water source for gardeners. The complex also provides basic tools for residents. The complex uses the pea patch as a marketing tool (see for yourself) and it has become a popular social activity for residents.
Townhouse Examples

These townhouses include usable semi-private front yard open spaces, while the left example adds balconies for each unit that help to expand the living area of the units.

These townhomes were provided with far too little open space amenities. There is basically no setback in the rear yard, while the long asphalt driveways can be viewed as a wasted opportunity (move building closer to street and provide some usable open space in the back). Also, the balconies appear much too narrow to invite use.

Resources/Links:
All of the books referenced above can be found on Amazon.com or check with your favorite book retailer. Other notable resources:

- **Seattle land use code**: Notable sections: SMC 23.45.016 (lowrise open space requirements), SMC 23.47A.024 (residential amenity areas), and the city’s design guidelines.

- **Tacoma land use code**: See 13.06.300(g) for Mixed-Use Center District yard space standards.

- **Bellevue land use code**: For the Bel-Red Design Guidelines, see Section 20.25D.150. For Downtown, see Chapter 20.25A.

- **Redmond’s new zoning code**: Notable chapters are 21.08 (residential regulations), 21.10 (downtown regulations), 21.12 (Overlake regulations), and 21.36 (open space). See Article III for detailed design standards.
Other notable codes/guidelines addressing residential open space:

- Portland has a number of great resources including the 1998/2008 Community Design Guidelines.
- Everett’s Core Residential Development and Design Standards: then go to Section 33G.060 for open space.

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