

Protecting Existing Neighborhoods from the Impacts of New Development

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This is the first of two articles discussing regulatory strategies to address two challenges to creating compatible and livable infill development. This article focuses on achieving compatibility between new multistory development and existing smaller-scale neighborhoods. The second describes concepts for providing open space in new multifamily residences.

Introduction

Smart growth principles call for the development of more intense mixed-use centers at transportation hubs or other strategic locations. Pursuing this direction, many communities are transforming older downtowns and commercial strips into more intense centers with multistory mixed-use buildings by encouraging 3- to 6-story buildings that add the resident population and activity necessary to support improved transit, local commercial services, and attractive living conditions. And such a strategy has been successful in many communities, such as Renton, Kirkland, Everett, Bellevue, Kent, and several Seattle neighborhoods. Developers, planners, and designers have found ways to improve pedestrian conditions, handle parking and traffic impacts, and create livable—even vibrant—urban centers.

One of the most difficult challenges to planning more intense community development has been the protection of living conditions in adjacent neighborhoods, especially preserving the privacy, solar access, and character of adjacent residences. Maintaining livability in nearby residential areas is critically important because the success of mixed-use centers is economically and physically dependent on the support of the adjacent neighborhoods. At the same time, development economics generally requires 4-story to 6-story construction. The challenge for planners and designers is how to condition new multistory development so that the privacy, solar access, and general livability conditions of adjacent residences are not significantly impacted.

Sometimes the properties adjacent to the new development are already occupied with, or planned for, multifamily residences with appropriate setbacks and mitigation. In this case, new development is often compatible with existing conditions. But often, especially along commercial strips, commercial/mixed-use zones directly abut established single-family neighborhoods. Most city zoning codes have requirements for setbacks, step-backs, screens, and buffers to mitigate the impacts of larger scale development adjacent to single-family homes, but the provisions vary widely from city to city. This article examines such measures in an effort to provide a more coherent rationale and guidance towards such regulations.

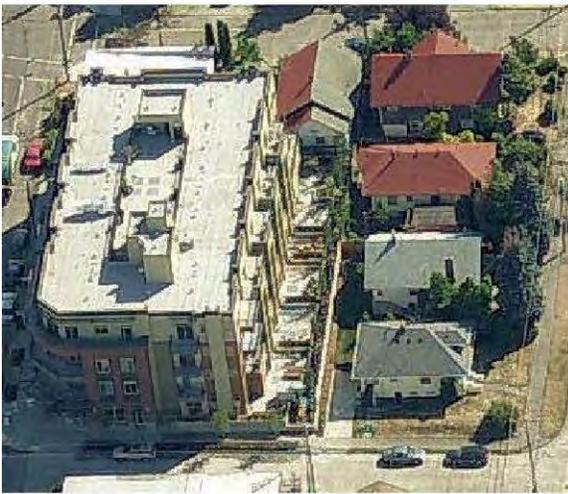


Figure 1. Maintaining the livability of low-rise neighborhoods near multistory development is a major challenge.

Physical Development Standards for Privacy

Ground-Level Screening

Physical impacts of new multistory development to adjacent residences generally arise from two sources: ground-level activities, such as parking and services, and upper-story impacts affecting privacy, sunlight, and visual qualities. Ground-level impacts are typically addressed by screening with a solid—preferably masonry—wall plus trees that grow at least 20 to 25 feet high. Trees this height are about as tall as a 2-story building and will screen views both into and from the residences' second story windows. Building setbacks should be sufficient to allow space for the tree canopy, and the amount of space required should be tied to the tree type. Generally, at least 10 feet is required for columnar trees, and the tree should be located so that the canopy does not extend much over the adjacent residence's yard.



Figure 2. When a multistory building is developed adjacent to their residences, many homeowners install evergreen screens on their own property as the most effective way to retain some privacy. Requiring the developer to install such a screen seems like an effective and equitable measure.

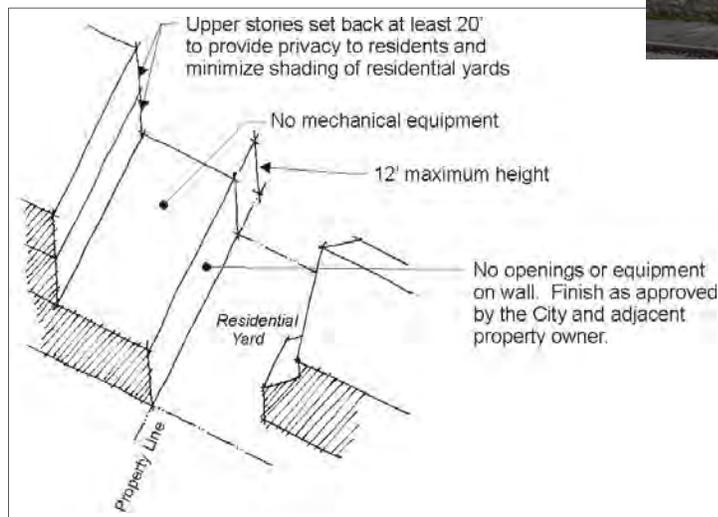


Figure 3. Allowing a low firewall constructed on the property line may be a good way to reduce impacts to existing residences.

Another approach to protecting the quality of neighboring residences is to allow a single-story building or portion of a building to extend to the property line, provided that the exterior wall is a fire-rated masonry wall less than 12 feet tall with no openings. This proposal may seem like an intrusion, but consider that many rear yard setbacks are poorly maintained areas used for waste stations, service, and unsightly long-term storage. (Figure 8.) A masonry wall provides privacy and a property edge along which the adjacent resident can landscape in a variety of ways. Also, parking and service areas are enclosed, and the new development has fewer site constraints. Allowing buildings to extend to the property line may not be as advantageous where the new building is adjacent to a side yard in which the existing residence is set back less than 10 feet from the property line.

Upper-Story Setbacks

Upper story impacts to privacy, sunlight, and views present a different challenge. Setback and step-back dimensions should be based on logical behavioral objectives and a geometric rationale. When considering residential privacy, the question is, at what distance does a person feel that his privacy is being invaded by someone viewing from outside the property? In other words, how far away does an upper story window or balcony need to be so that a person in an adjacent back yard feels comfortable doing normal activities? In his text, *Site Planning* (page 15), Kevin Lynch notes that 80 feet is the distance at which a person becomes socially relevant, that is, the distance at which one can recognize a person and perceive his mood and feelings. Eighty feet is a typical arterial street right-of-way width, so this separation distance seems quite reasonable. Striking an 80-foot arc from the center of a yard where activity might occur provides a rationale for constraints to upper story setbacks. In Figure 4, a 37-foot setback would be sufficient for stories above 35 feet if a screen of substantial trees is provided. Without a screen of trees, all stories would need to be set back at least 60 feet or more in order to prevent loss of privacy. Screening with mature trees, while costing more than the standard perimeter landscaping, can be very cost-effective for the developer because it allows the reduction of the setback needed to provide greater separation.

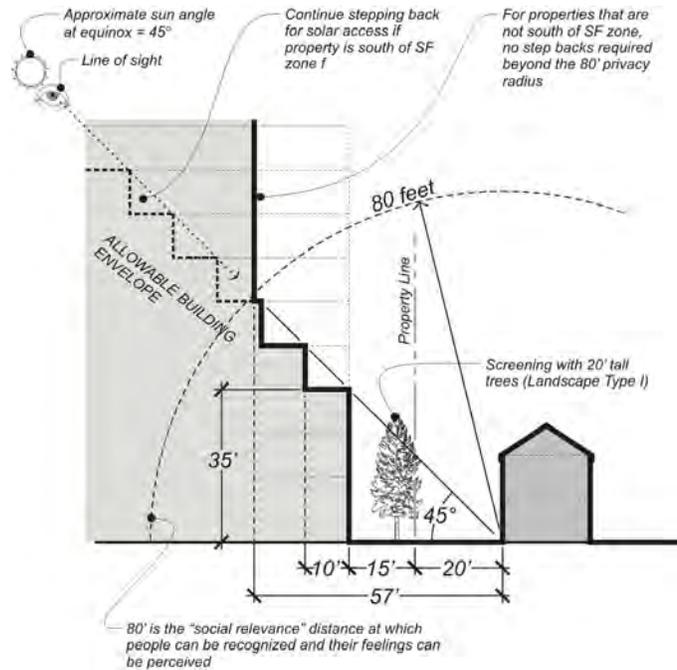


Figure 4. Upper-story setbacks for privacy.

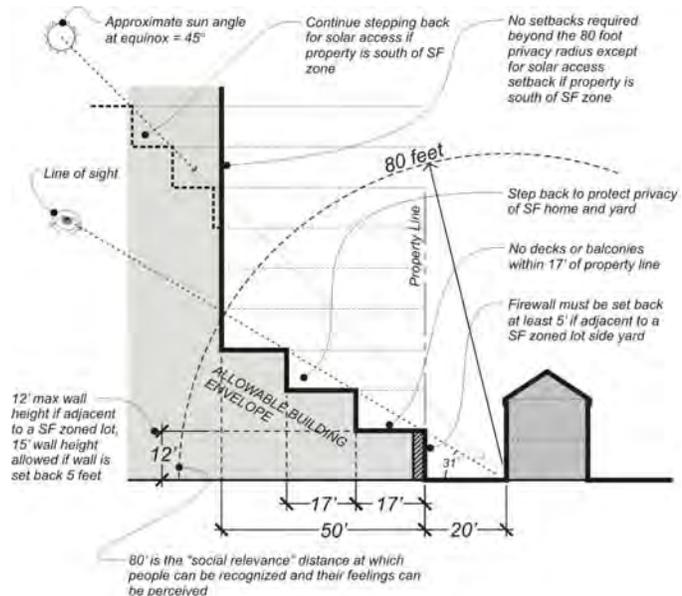


Figure 5. Setbacks for new development with firewall option.

The firewall solution shown in Figure 2 requires a greater setback to achieve the same level of privacy. (Figure 5.) Note that the setbacks will vary with the assumptions made about the width of the back yard and the level of privacy to be achieved. If the new building faces onto single-family side yards, then the geometry changes, but the objective of ensuring sufficient space between existing outdoor living spaces and the new residential units is still valid. This suggests a performance-based requirement rather than a specific setback requirement. For example, a code might allow a lesser setback provided the applicant can show there is at least an 80-foot separation between residential units and existing or potential outdoor living areas.

Another means to reduce impacts to privacy and increase the attractiveness of new buildings is to require that the balcony railings provide at least 50 percent visual screening; that is, the area below the hand rail is at least sight-obscuring solid material (Figure 5). This means that a person sitting on the balcony will not be able to look down on activities below but will be able to look out horizontally. At the same time, activities and objects stored on the deck (e.g., barbeque grills, furniture, etc.) will not be as visible from below, giving the new residential units a tidier appearance and their own privacy.

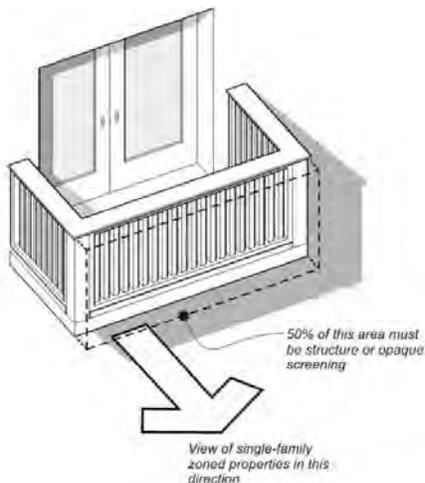


Figure 6. Balcony railing requirements.



Figure 7. The balconies on the left offer more privacy and hide stored furniture better than those on the right.

Sunlight

Steps should also be taken to prevent substantial shading of existing ground-related residences. Here again, it is important to consider the development context. A tall building built north of a residence will not shade that house. Similarly, new structures built to the east and west of a residential lot will still allow sunlight to the lot most of the day. Therefore, provisions to protect properties from shading need not apply if there is not an outdoor living space or low-rise residence directly to the north. Buildings south of a residence, however, may shade a residential lot during the critical mid-day period during which many plants need direct sunlight and outdoor activities are most common.

Generally, most people's outdoor activities occur between the equinoxes. Memorial Day and Labor Day are often spoken of as the beginning and end of the summer season, and all but the

very late tomatoes have been harvested by mid-September. So if a new building is set back or stepped back sufficiently to provide sun at the equinoxes, impacts to the adjacent residence will be greatly mitigated. The sun angle in the Northwest at the equinox is about 45 degrees, so stepping a building back 45 degrees will allow solar access during the most critical periods. The step-back should not necessarily be projected from the property line, since it may not be realistic that the whole yard receive sunlight during that time. After all, a 25-foot-tall house built 5 feet from the property line will cast a long shadow on an adjacent property as well. Cities must decide for themselves what are reasonable expectations for solar access. Figures 4 and 5 illustrate step-backs for solar access.

Other Factors

Where alleys separate new development from single-family zones, the issues discussed above are much easier to resolve. Obviously, alleys reduce the setback needed to achieve a given level of privacy and solar access, so development standards should be flexible enough not to unnecessarily restrict new development. Sometimes commercial/mixed-use properties extend through the block so that their lots face across the street from single family residences. In this case, the most important considerations are that parking lots and service areas be fully screened from residences on the opposite side of the street and that vehicle entries be located to reduce traffic impacts. Substantial street trees are a good way to reduce the impacts of commercial and mixed-use development on residential streets.

Dumpsters and service areas are also sources of irritation, particularly if they contain food waste from restaurants. The best solution is to require that they be located internally within the building or at least be set back from the adjacent property line and screened. Roofed dumpster enclosures should be required near residential areas. (Figure 7.)

Noise can also be a significant irritant but can be addressed by requiring that the mechanical equipment for new development not cause any more than 55 decibels of sound at the property line adjacent to a single-family (or multifamily) zone. Fifty-five decibels is lower than a normal conversation. Fan and equipment manufacturers provide noise ratings for their equipment, and the dissipation of noise over a given distance can be calculated.



Figure 8. Commercial yard setbacks are often filled with trash and unsightly storage.



Figure 9. A well-designed dumpster enclosure.

Land Use Measures

Another common strategy to address impacts to existing neighborhoods is to rezone properties adjacent to the high-intensity zone to encourage their redevelopment to more compatible uses and building types.

One simple method to address the issues discussed above is to allow businesses to occupy homes adjacent to commercial or mixed-use zones, provided that the properties meet all the physical standards of the single-family zone and that parking is accommodated. This allows small professional offices in existing houses. The office uses do not require the same privacy and livability conditions as a residence and would provide efficient space for a whole class of businesses. At the same time, business/property owners will likely provide better maintenance for property than would be the case for a rental house in a less-than-desirable setting. (Figure 10.)



Figure 10. Allowing businesses to occupy houses adjacent to multistory buildings can reduce neighborhood impacts.

Another strategy is to allow single-family attached housing next to mixed-use properties. While the considerations described above should be addressed, the redevelopment of the properties provides an opportunity to consider privacy and other issues in the design of the new units.



Figure 11. This new townhouse-like residence is designed to mitigate the loss of privacy and transitions between the taller building and single-family neighborhood.

Finally, cities can rezone lots adjacent to or near commercial/mixed-use zones to allow multifamily development. While this is a common strategy, there are some down sides. For one, the multifamily buildings may not be built for a number of years. Property owners often allow existing houses to deteriorate for several years prior to redevelopment in order to “bleed” their value from the properties. And, extending larger scale development into existing single-family zones often just pushes the same impacts further into the neighborhood. Even if these impacts can be adequately addressed, neighbors are likely to raise vocal opposition. Again, the most effective measures will depend on the current conditions, such as the quality of existing housing, topography, and potential for traffic impacts.

Conclusions

This brief article is aimed at providing practical suggestions to address a small-scale but prevalent redevelopment challenge. However, three general observations arise that have implications for the broader practice of shaping new development through regulatory measures. First, the objectives for any regulatory program should be clearly identified. For example, in establishing step-backs to protect access to sunlight, it is necessary to first determine how much solar access should be provided and why. Second, in successfully addressing difficult issues such as compatibility between different scaled building types, it is often necessary to closely examine the various conditions to which the regulations apply. The development standards themselves must be flexible enough to account for those different situations. Finally, when establishing quantitative requirements such as setback widths, planners should consider behavioral and environmental science research applicable to the situation. Thinking through the issues and examining successful examples is preferable to simply establishing a number without an explicit rationale. Case study or post-construction research regarding the impacts of adjacent tall buildings would greatly enhance the profession's knowledge on this subject.

The suggestions in this article will not completely “solve” the problem of attaining full compatibility between new multistory development and smaller scaled residential neighborhoods. However, they hopefully provide a few tools to use in working with residents, property owners, and communities that face this persistent challenge.