

**DRAFT**



CITY OF PORTLAND, OREGON  
BUREAU OF  
**Planning**

# Infill Design Project White Paper

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## I. Purpose of Paper

This white paper is intended to be a resource for initial discussion on the scope and work program of the “Infill Design Project.” The paper includes project staff recommendations on a general project scope and identifies potential strategic partnerships. It also provides background and some preliminary analysis of infill design issues.

This draft of the white paper is a refinement of a previous draft, from February 2003, that was intended for an internal audience of Bureau of Planning managers. The recommendations and analysis included in this draft are preliminary only. Additional research, discussion and determination of project resources is needed before the scope of work can be finalized.

## II. Summary of Recommendations

<b>Goal and Scope</b>	Focus on medium- and higher-density residential development;
	Clearly inventory the design qualities that support public policy and work strategically to ensure that these qualities are included in a greater number of projects;
	Move beyond the public realm impacts of development to focus on site-design issues and the impacts of design on the semi-public realm (e.g. neighboring properties and common outdoor spaces);
<b>Analysis</b>	Inventory community, architectural, and City concerns with what is being developed;
	Identify regulatory barriers and regulatory gaps that may prevent development from implementing design policy;
	Assess real estate and market trends, and include an economic analysis component to ensure that recommendations can be implemented within market realities;
	Assess the combination of factors that have allowed certain infill projects to “succeed”;
	Research lessons learned from other cities and from past Portland efforts and analyze the efficacy of the tools currently available;
<b>Products and Partners</b>	Focus on effective, non-regulatory tools, including plan books, case studies documents, design award programs, and improvement grants;
	Identify appropriate regulatory and non-regulatory strategies to address regulatory barriers and gaps.
	Partner with other City agencies to make efficient use of public resources;
	Partner with outside groups such as the AIA and neighborhood associations to take advantage of their experience and expertise;
	Establish an advisory committee that includes architects, builders, and neighborhood representatives;
	Include the implementation phase within the project timeline and ensure adequate resources for project implementation;
	Work with development community to ensure implementation of project objectives.

## III. Background

### Design's Role in Growth Management

Regional and local policy supports a two-pronged approach to growth management in Portland:

- accommodate additional growth, particularly housing, within existing built-up areas; and
- ensure that this infill development enhances, rather than detracts from, the livability of existing neighborhoods

Urban design has been one of the tools the City has used to ensure that infill development positively impacts livability. In general, the City has exceeded our commitment to accommodating regional population growth over the last decade; however, the livability prong has been more challenging.

### Past Projects and Policies

Various projects have been undertaken by the Bureau of Planning over the last decade focused on the design of infill development, ranging from demonstration projects, such as City Life in the Brooklyn Neighborhood, to creation and application of new Community Design Standards and Guidelines through design review. These projects, in keeping with broader City policies, have taken an approach that places a value on:

- being “pedestrian-friendly”;
- minimizing the visual impact of the private automobile;
- providing “eyes on the street” and a sense of interaction with the public realm;
- “stepping down” in height and bulk from higher intensity to lower intensity development;
- providing green landscaping rather than asphalt/paving in open areas; and,
- particularly in older, historic neighborhoods, making use of historic vernacular forms and materials (gabled roofs, front porches, clapboard siding, etc.)

See Appendix C for a detailed list of past design-focused projects and policy information.

There have been some successes. Housing built by non-profit developers in Inner North/Northeast and Outer Southeast Portland shows the influences of the visioning work undertaken by the City and its partners during the Albina and Outer Southeast Community Plans. Many for-profit developers have incorporated some of these values into their projects as well. However, there continues to be room for improvement in much of the infill development that has occurred, particularly outside of the zones where design review is required. (See the discussion under “Project Scope,” below.)

In 1997, the Planning Commission, as follow-up to their work on the Community Design Standards, initiated a project to develop objective design standards that would apply to housing occurring outside of situations where design review was required. The subcommittee's work resulted in draft regulations called the *Interim Design Regulations for Infill Development*. The scope of the project was split into phases based on public input, and “phase 1” was adopted as the Base Zone Design Standards project in 1999. The Base Zone Design Standards project resulted in zoning standards that effect the appearance of single dwelling development in all zones, in particular restricting the ability of houses to rely on garage-forward designs.

The intention was that a subsequent phase (“phase 1.a”) would refine base zone standards for the design of rowhouses, and that “phase 2” would develop base zone standards for higher density residential projects. In January 2000, the Planning Commission reported to the City Council on preliminary findings related to the design of housing on small lots, and the regulatory

approaches that could be taken to intervene in it. While the City Council did not approve a specific work program to address the findings, many of the findings were ultimately incorporated into the work program of the Land Division Code Rewrite project. As part of the rewrite of the Land Division Code, the City adopted new standards for the design of single dwelling development on newly-created narrow lots in residential zones. The Land Division Code Rewrite project did not adopt standards for the design of housing on existing narrow lots, or on any lots within the multi-dwelling residential and commercial zones.

### **Initiation of the Infill Design Project**

The Infill Design Project has been envisioned as the project that would take up where the Base Zone Design Standards and Land Division Code Rewrite projects left off, completing phases 1 and 2 of the original Design Regulations for Infill Development Project. Some additional issues have also been identified by past projects for inclusion in the Infill Design Project work program, including the following:

- **Reexamine the Community Design Standards.** State law now requires that projects that contain housing outside of the Central City and the Historic Districts be given access to a “clear and objective standards” track for design review. As a result, large projects that would previously have been required to go through discretionary review against the Community Design Guidelines, can now opt to be evaluated against the standards. There is concern that the standards were not designed to evaluate larger residential and mixed-use projects. There also continues to be concern that the Community Design Standards are not fully implementing community values for other projects. This issue was identified as outstanding in the final report of the Land Division Code Rewrite Project;
- **Reexamine the “a” overlay mapping and density bonus.** The “a” overlay was created as part of the Albina Community Plan and then subsequently applied in other area planning efforts. The “a” includes a menu of options that provide some additional flexibility to infill development, including allowing increased density in exchange for going through design review, providing some alternative development options, and allowing accessory dwelling units in owner-occupied houses. Since adoption of the “a” overlay, several of its provisions have been incorporated into the base zones with modifications. Neighborhood representatives have voiced strong concern that the “a” offers too much flexibility. This issue was identified as outstanding in the final report of the Land Division Code Rewrite project. The issue has also been included on the Regulatory Review “top ten” list;
- **Continue design work for multi-dwelling development.** This issue encompasses “phase 2” of the *Design Regulations for Infill Development Project*. This issue was identified as outstanding in the final report of the Land Division Code Rewrite project;
- **Develop design standards for existing narrow lots.** Because the design standards included as part of the Land Division Code Rewrite only addressed development on newly created narrow lots in single-dwelling zones, but did not apply to rowhouses and other narrow lot development on existing lots or in multi-dwelling or commercial zones, this issue was identified as outstanding in the final report of the Land Division Code Rewrite Project;
- **Continue design work for town centers, main streets and station communities.** The Hollywood-Sandy Project created a main street overlay zone with standards that apply along the Sandy Boulevard Main Street. Originally, it was thought that this tool would be expanded into a more comprehensive regulatory approach to the design of main streets citywide. This issue was identified as outstanding in the final report of the Land Division Code Rewrite project;
- **Reexamine the measurement of height on sloping sites.** This issue was identified and left unresolved after several City Council hearings on Code Maintenance 2000; neighbors in

Southwest have been particularly insistent that we “resolve” the issue and have been led to believe that the Infill Design Project will examine it; and

- **Resolve problems identified with development of new houses on substandard lots of record (e.g. 25' x 100' lots in R5).** This issue has recently been identified by neighborhood representatives and development services center staff and is beginning to get media attention. This issue may be suggested for inclusion in the Regulatory Improvement project.

The Infill Design work program is not required to consider any of these issues. However, because of the level of community expectation surrounding many of the issues, we will need to provide a rationale for excluding issues that we do not consider. While past projects have provided some dimension for each of the issues identified, the Infill Design project will need to do a more thorough analysis to determine what the actual problems are in a broader citywide context.

### **Regulatory Improvement**

The Regulatory Improvement Project, recently initiated by the Mayor’s Office, impacts the scope and direction of the Infill Design Project in a couple of ways. First, there is some overlap between the list of code provisions identified by the Regulatory Improvement and the potential issue list for Infill Design. Second, the Regulatory Improvement Project requires that City bureaus make a good case for how the benefits of regulations outweigh the costs when proposing new regulations. Implicit in this notion is the emphasis on exploring non-regulatory alternatives to achieving policy goals.

## IV. Project Scope

Information provided in the background section of this paper supports including medium and high density residential development in the Infill Design Project scope. We recommend focusing the scope further, to exclude low-density residential, commercial, and mixed-use development, and to focus entirely on medium- and higher-density residential development outside the Central City for the reasons outlined below. The Case Studies described in Appendix B reflect this recommended focus on medium and high-density residential projects.

### **The Infill Design Project Has Limited Resources**

In order to make the most of our limited staffing resources, we need to focus our efforts strategically. Focusing on a particular development type allows a more thorough investigation of problems and solutions while still completing a citywide project.

### **The Design of Medium and High Density Residential Is Impacting Livability**

Medium and high-density residential development has an incremental, pervasive impact on the look and feel of Portland neighborhoods, that may ultimately make or break our attempts at growth management. In the 1960s and 1970s, demography, real estate, and liberal regulations combined to allow construction of affordable, stick-frame apartment buildings throughout the inner eastside. Because the design of this development was perceived as detracting from the existing fabric of the neighborhood, the neighborhoods activated in opposition to the development and the City ultimately down-zoned the large areas to single-family. To prevent such a situation in the future, we must ensure that higher density development becomes a more welcome addition to neighborhoods.

### **Level of Impact**

Medium and high-density residential development is often characterized by buildings that are comparatively large in the context of the detached houses that are the predominant housing type in most neighborhoods outside the Central City. As a result, multi-dwelling development has a significant visual impact on neighborhoods, making the design of such development a salient community issue. While most *units* are being constructed in the mixed-use centers, the majority of medium and high-density residential *projects* are being built in lower-density neighborhood areas with fewer design controls (see Appendix B.1).

### **Quality of Design**

While macro-level design goals calling for higher-density residential development to be concentrated along or near transit lines are, to a great extent, be realized (given the large amount of multi-dwelling development occurring in multi-dwelling zones, which are primarily located in areas well-served by transit), the design of individual developments is often not contributing to infill design goals (see Appendices A and C for a more detailed summary of City Policy and Community Values; see Appendix B for a more detailed summary of development case studies).

Design problems, identified by the public in recent planning projects, by BDS plan review staff, by BOP staff during past infill design projects, and by current Infill Design staff from field visits to recent projects, include the following:

- **New multi-dwelling development often does not contribute to community goals for a pedestrian-oriented streetscape.** Developers are frequently building to the minimum requirements of the Zoning Code which do not limit front parking in most multi-dwelling zones, and require a minimum front façade window coverage for multi-dwelling development of only 8% (compared to 15% for single-dwelling development). While additional design standards apply to rowhouses built on fee-simple lots in the single dwelling zones, in the multi-dwelling and commercial zones, where most rowhouse projects are being constructed, there is a far more minimal set of standards. In the commercial and multi-dwelling zones, developers are constructing narrow rowhouses with front-loaded garages or other multi-dwelling prototypes that are dominated by surface parking areas and that result in driveway-dominated street frontages and buildings with minimum front façade windows.
- **Poor contextual relationship.** Many newer apartment buildings feature monolithic massing and impermanent-looking materials that are frequently seen as not contributing to the desired character of neighborhoods. Few projects use design strategies, such as dividing building massing into smaller components, to minimize scale differences with the existing building environment of neighborhoods. Also, in areas such as Outer Southeast that have deep blocks and lots, multi-dwelling development frequently occurs on flag lots, which compromises the traditional relationship of the “public realm” orientation of street-facing facades and the “private realm” of back yards and block interiors. Another contextual issue relates to rowhouses, which are the predominant development type in lower-density multi-dwelling zones (such as R2 and R1), but are often a difficult contextual fit in existing neighborhoods. Alternative small-scale multi-dwelling types exist that could be more contextually appropriate, but have not been widely built.
- **Privacy impacts.** Development is often not designed to minimize negative impacts on the privacy of neighboring properties (a frequent complaint are upper-story balconies close to property lines, perched over neighboring backyards).
- **Lack of usable open space.** The need to balance minimum density requirements and to provide parking economically (typically resulting in surface parking) often results in projects that provide little usable open space for residents – a primary issue identified by residents in outlying neighborhoods where the majority of apartment development is occurring and where apartments frequently house families with children. The lack of usable open space and play areas is exacerbated in some outlying neighborhoods by the scarcity of conveniently located public parks. While earlier examples of multi-dwelling projects were often oriented around a shared open space or courtyard, more recent development is typically oriented around surface parking lots, which in effect become the central design focus. The use of open areas primarily for surface parking also denies opportunities for shared open space that can cultivate a sense of community and visually tie apartment developments to the landscaping of established neighborhoods.

### **Past Direction**

The City has indicated over the past decade that we would “do something” about the design of higher-density residential development:

- During the Albina and Outer Southeast Community Plans, the City up-zoned residential land to make more efficient use of transportation infrastructure, and to meet our regional housing goals. Some of these up-zonings corresponded with application of the “d” design overlay zone, but many did not. While these community plans each had a design component, they did not address the full range of issues that come into play when developing medium and higher density projects on constrained sites in areas with existing low density development. In addition, much of the design work completed by these plans, outside of the design



overlay zone, focused on educational tools with a fairly limited shelf life. At the time of Plan adoption, the City made assurances that a future follow-up project would look at design and livability issues in more depth. Neighbors in these areas, particularly in Outer Southeast have continued to raise valid concerns about the quality of the higher density development that is occurring throughout their neighborhoods.

- As described under “Background”, the Infill Design Project has frequently been referred to as the “future” project that would complete phase 1a and phase 2 of the work that was begun with the *Design Regulations for Infill Development* project in 1997.

### **Lack of Design Controls**

Relative to other development types, few design controls (such as design review or design standards) apply to most multi-dwelling development outside the Central City. Recent planning efforts have focused on establishing design standards for detached houses, duplexes and (to a lesser extent) rowhouses, but have not focused on apartment buildings and other medium and higher density housing types. A large proportion of commercial development, meanwhile, is occurring along transit streets or pedestrian districts, which are subject to development standards that limit front parking areas and require buildings to be oriented to the street. The majority of multi-dwelling residential projects, however, are being built in areas where such standards do not apply and that are not subject to design review.

### **Narrowing the Scope**

The Infill Design project should exclude larger scale mixed use development for the following reasons:

- Larger mixed-use projects are typically allowed only in our Metro-designated centers and main streets. Most of these areas are already covered by design review requirements or other design controls. While these requirements may not be entirely adequate, we feel that there is a more pressing need to examine the design of development that is currently happening without benefit of any specific design guidance from the City.
- Larger mixed-use projects play an important role in place-making within the centers in which they are located, and a citywide effort, such as the Infill Design Project, may not be able to address these projects adequately. Geographically-focused efforts, such as the mayor’s design initiative and area plans, are probably better suited to sculpting the design of these larger place-making projects.
- Larger mixed-use projects are typically built by a different segment of the development community than are smaller residential projects because of many factors, including increased financing challenges, differing construction specifications, and different markets. Excluding larger mixed-use projects from the Infill Design Project will enable us to work more directly with a smaller subset of the development community and develop an in depth understanding of possible issues and solutions.
- Broadening the scope of the project to include larger mixed-use projects diffuses our ability to give attention to the medium and high-density projects occurring throughout Portland neighborhoods. As discussed in Appendix A, most of the concerns we have heard from members of the community relate to these development types.

## V. Additional Analysis Needed

Additional analysis needs to be done to fully dimension problem areas related to the design of medium and high-density residential development as well as potential solutions. In particular, additional analysis should include the following:

- A more thorough assessment of the negative aspects of medium and high-density residential development. Analyze community concerns, architectural concerns, and planning bureau concerns with what's currently being constructed.
- A study of the regulatory environment under which medium and high-density residential development occurs across different locations and zoning conditions. Assess how regulations shape projects on particular sites and identify barriers to good design that may exist in the current code. Assess how existing public-realm focused zoning controls, like the community design standards, apply to "difficult" site conditions, configurations, and locations. Inventory regulatory gaps that have been identified by the public, and through past projects.
- An assessment of real estate and development trends and how market forces and consumer preferences may lead particular development outcomes. Analyze financing, costs, standard development practices, and market demands for particular housing types.
- Identification of successful examples of infill development across densities and site conditions, including a critical assessment of why these developments have succeeded which takes into account public and private realm considerations. Inventory design characteristics that these successful projects exhibit. Analyze market and regulatory factors that enabled these projects to be constructed.
- A study of the efficacy of the current tools available and employed in the assessment and approval process for infill development. Inventory existing regulatory and incentive-based tools and analyze effectiveness of these tools. Survey comparable cities for tools that have been used successfully elsewhere. Interview people involved in past demonstration projects in Portland for lessons learned. Interview PDC and others who have insight into intervening through negotiation.

## VI. Anticipated Products and Strategic Partnerships

The products of this project will depend in part on what the additional analysis reveals about the dimensions of the problem and on a strategic assessment of potential solutions. Based on the Bureau's emphasis on exploring the full range of approaches and alternatives for addressing identified issues, products will likely have a significant focus on effective, non-regulatory approaches in addition to any necessary regulatory amendments. Potential products include the following:

- **Project report and recommendations.** At a minimum, the infill design project will lead to a project report and recommendations for future action. The report will summarize all findings, analysis, background, and project process. The report will be developed iteratively as the project goes through the required legislative process including hearings before the Planning Commission and City Council (and Design Commission if changes to any design guidelines are proposed).  
**Strategic Partners:** This report will be developed by the Bureau of Planning team with input from a project advisory team and the general public. We may want to seek out specific guidance from the Design Commission and Citywide Design Initiative Team.
- **Regulatory amendments.** If analysis of the regulatory environment reveals that there are regulatory barriers or gaps that need to be resolved, and a regulatory impact analysis confirms that the benefits of amendments outweigh the costs, the project could lead to regulatory amendments.  
**Strategic Partners:** Initial identification of problems will involve input from neighbors, administrators, builders, and the architectural community. Analysis of specific problems and solutions could involve the assistance of the local architectural community—it may make sense to partner with architectural students and have them design projects that would meet the code on particular sites as an exploration of its limitations. Regulatory amendments will ultimately be developed by the Bureau of Planning team with input from Bureau of Development Services staff.
- **Pre-approved plan book.** Initial discussion with developers and Development Services Center staff support the notion of developing a collection of “pre-approved” plans that meet city regulations and implement design policy on particular sites. The general concept is that there would be a collection of prototype plans available for development in particular zones and contexts. These plans would meet all minimum regulatory requirements and fulfill City design goals. An individual developer would be able to elect to use one of these pre-approved plan sets, and in exchange would have an expedited permitting process. The plan book could also be an educational resource for developers who elect to create their own designs. If project findings support the notion that off-the-shelf plans could lead to a better development product, and analysis of real estate and development trends indicate that these plans would actually be used and project resources are available, the Infill Design Project could lead to development of such a plan book. The urban design goals of these plans will need to be very clearly established early on.  
**Strategic Partners:** If we decide to pursue this option, it will rely on significant work by architects (either in-house or on external contract), significant input from Bureau of Development Services staff, and significant input from builders and neighborhood representatives. It would also rely on a large portion of the project management FTE for the project while the plan book is being developed. This approach may require that we find additional funding mechanisms to support any architectural work.

- **Publication of case studies.** A well-produced document that includes case studies of recent infill projects could provide a powerful means of educating the public and development community of how “real world” projects have implemented City design policies. Cases should be carefully selected to provide examples of development projects that have “solved” the problems identified through the analysis of the project.

**Strategic Partners:** The case studies document could be developed by the Infill Design Project team with assistance from graphics staff and input from the project advisory committee and others. Ideally, we would be work with the development community to get proforma information about certain projects. Additional resources would be needed to broaden case studies document to include projects outside of Portland. Additional funding resources would be needed to ensure eye-catching production quality for the document.
- **Free consultation with architect/designer—“Design Aid”, similar to Legal Aid.** Initial discussion with Development Services staff has indicated that many of the residential projects that deviate most from City design goals are being built by builders who have not hired an architect. While review staff can provide some hands on design advice, their role is generally limited by resource constraints and the timing of the review process in the context of the development timeline. Providing access to architectural expertise at the front end of the project could benefit the overall look and feel of the projects being constructed.

**Strategic Partners:** This approach would require assigning internal staff or finding volunteers in the local architectural community to provide pro bono architectural expertise to projects meeting certain requirements. This approach would also require on-going Bureau of Planning support to set up the system, market it to the development community, and maintain it over time.
- **Design award/certification program.** This approach would reward developers who “do the right thing” by offering awards or special certification for qualifying projects which could be used in the marketing of the development. The approach would also provide an educational function, publicly recognizing projects that meet City policy goals.

**Strategic Partners:** This approach would require input from the architectural community and project advisory committee on criteria for awards, certification. The approach would require on-going support by the Bureau of Planning or designated organization to evaluate and award projects over time as well as media support to give these awards a public presence.
- **Design-improvement grant program.** This approach could develop a subsidy similar to PDC’s storefront improvement program that would provide owners of existing multi-dwelling development with funding to make cosmetic improvements to the development.

**Strategic Partners.** This approach would require partnership with PDC, BHCD, or other organization with access to bricks-and-mortar funding and expertise administering this type of grant. This approach would also require considerable staff resources to develop criteria for the funding and a system of accountability, and to continuously administer and market the program once it’s in place.
- **Demonstration project.** This approach would develop an actual on the ground project as a model for other multi-dwelling projects, similar to the CityLife project.

**Strategic Partners.** This approach would require partnership with PDC, BHCD, local non-profit developer, or other organization engaged in property development. Because of the

financing complexity and risk involved, it would probably make sense to try to integrate this into work already being undertaken for other purposes.



# Appendix A: Community Values and Assumptions





## A.1 Multi-Dwelling Infill Design Priorities

As we initiate this project it is essential that we articulate the City's design goals and develop a shared vision. The following is a summary of key thematic aspects of design, and their contributing elements, that are likely to be the focus of the Infill Design Project. They reflect infill design priorities and objectives found in City documents such as the *Comprehensive Plan*, design review guidelines, and past infill design studies and reports. Past regulation-based infill design projects, such as the Base Zone Design Standards project, have focused almost exclusively on the first of these aspects, the "public realm interface." Consideration, also, of the other aspects of design summarized below are necessary for a fuller understanding of the extent to which infill projects are meeting the City's design goals.

All of these aspects will be considered as part of the Infill Design Project in analyzing project case studies, in identifying infill design problems, and in developing solutions. The preliminary case studies in this white paper (see Appendix B.2) include developments that illustrate these contributing design elements (for example, Rowhouse Example 2 and Apartments Example 4 both illustrate design elements that contribute to a successful public realm interface and contextual relationship). These design concepts will need to be further refined and elaborated on so that a clearer understanding of the City's infill design goals can be communicated to the public.

### **Public realm interface** – *Focus on front façade and setback area*

- Windows and doors oriented to the street to provide opportunities for "eyes on the street" and enhance connections to the surrounding neighborhood.
- Prominence of parking facilities minimized to enhance the pedestrian environment.
- Visual interest and human scale provided by utilizing architectural features (such as window treatments, entries, façade articulation, porches/balconies) that contribute to an active building edge.
- Design elements (such as landscaping, stoops, porches/balconies, etc.) arranged to provide a layered sequence between the street and building interior.

### **Contextual relationships** – *Relationship to adjacent properties and surrounding neighborhood*

- Building massing/typology and arrangement of building volumes that acknowledge predominant built patterns and scale of the neighborhood or district.
- Consideration of solar access / shadowing impacts on adjacent properties.
- Impacts on privacy of adjacent residences minimized.
- Design elements, such as architectural features (e.g., fenestration patterns, entry treatments, façade articulation, detailing, roof forms) building materials, and landscaping, that acknowledge the building traditions or the desired character of the surrounding neighborhood.
- Site design that responds to the natural features and topographical constraints of the site and surroundings.

### **Private realm** – *How buildings function for users/residents*

- Unit configurations and features that meet the needs of residents.
- Configuration of private/shared open spaces that maximize amenity value.
- Consideration of solar access.
- Secure and defensible common areas and circulation space.

**Sustainability** – *(This is a primary focus of the Office of Sustainable Development and would only be an area of consideration for the Infill Design project)*

- Energy efficiency
- Durable materials
- Stormwater management that minimizes environmental impacts

**Other key considerations**

- Impacts on housing affordability
- Ensuring that infill development continues to contribute to the City's goals for growth and housing density
- Avoid emphasizing a particular style of architecture

## A.2 Community perceptions

This section provides a summary of frequently-raised concerns about the design of recent infill development. Perceptions of what makes infill design desirable or successful tend to vary considerable between the general public and architects, with the former placing a premium on development that is visually compatible and similar to existing structures, while the latter tend to place a premium on innovative design.

One measure of community satisfaction with new development are survey results published yearly in the Office of the City Auditor's *Service Efforts and Accomplishments* report. The report on the 2001-2002 year indicated that, of those residents who reported new residential development in their neighborhood, a little more than half (55 percent) thought this development was attractive, and 43 percent felt it made their neighborhood a better place. Satisfaction with the attractiveness of infill development varied widely by area, with the percentage of those rating new residential development as attractive ranging from 46 percent in Outer East Portland to 65 percent in Inner Northeast Portland. Note, however, that the survey did not differentiate between single-dwelling and multi-dwelling development.

The 2001-2002 *Service Efforts and Accomplishments* document also reported on perceptions of new commercial development. Generally, respondents indicated greater satisfaction with the attractiveness of commercial compared to residential development, with 65 percent citywide rating the attractiveness of new commercial development as "good or very good."

The following discussion summarizes more specific community concerns, focusing on those frequently raised by the general public and design professionals, and also on concerns raised by Bureau of Development Services staff.

### General Public / Neighborhoods

Neighborhood associations and member of the general public have frequently raised concerns about the character of new residential development in their neighborhoods. A recurring public request during area planning projects and past City hearings on design standards has been to extend design controls to all residential development. These concerns were addressed, in part, through adoption of the Base Zone Design Standards (adopted by City Council in July 1999), which established design standards for detached and attached houses. Concerns remain, however, regarding the design of medium- and higher-density development, which many claim are not contributing in a positive way to the character of neighborhoods. Public concern about the design quality of new small lot and multi-dwelling residential development has been especially pronounced in the Outer Southeast Portland, which has been experiencing large amounts of infill development. Common concerns include:

- Apartments do not provide sufficient open space to be usable by children, and often are characterized by boxy, monolithic massing, blank wall areas, and impermanent-looking materials (such as vinyl siding).
- Narrow lot housing (both attached and detached) often has frontages dominated by garages and driveway paving, and relates poorly to neighborhood context due to design elements such as towering appearance, limited façade articulation or detailing, and lack of front setback landscaping.
- Infill development of various types too often towers over previously-existing houses, often with minimal setbacks that bring a loss of solar access, privacy, and views. Building height

issues are complicated in hilly areas, such as in the West Hills, where there has been much criticism of the City's standards for measuring allowed building height for steeply sloping lots. Some feel that the City's provisions for measuring allowed building height on steeply-sloping lots has allowed excessively tall houses that are out of context with the scale and character of existing neighborhoods.

- "A" overlay bonus density provisions allow housing types that are incompatible with existing single-dwelling neighborhoods
- A common belief in more suburban areas of the city is that rowhouses and apartments are not appropriate in neighborhood areas where detached houses predominate, regardless of how they are designed.

### **Design Community**

Criticism from the design community, especially architects, regarding infill design has tended to be tied to a perception that recent development has been characterized by mediocre and overly conservative design and that innovative design has lacked support from both the general public and regulatory agencies. A draft AIA "White Paper on Design Quality in Portland" (September 2001) included few specific examples of design problems, instead identifying the need for broad changes in cultural and regulatory approaches to architecture and design. Basic findings from this document include:

- Changes in the values, attitudes, and procedures of the various players involved in design and development (architects, developers, public agencies, and the public) and a greater commitment to quality design are needed in order to raise the level of infill design.
  - Design regulations and design review are contributing to mediocre design quality, inflexibly focusing on narrow aspects of design rather than the integrity of the total project. Design review is seen as often discouraging innovative design that deviates from established norms.
  - More needs to be done to model the design impacts of regulations and design standards.
- Other concerns raised by design professionals have been regarding the need for a more diverse range of infill housing types. A criticism raised during the Base Zone Design Standards planning process was that there has been too heavy a reliance on rowhouses as an infill design type, that rowhouses are difficult to fit contextually into established Portland neighborhoods, and that alternative housing types should be encouraged for low/medium density infill development.

### **Concerns raised by Bureau of Development Services (BDS) Staff**

Initial discussions with BDS Planning and Zoning division staff yielded the following perceptions and ideas regarding infill design:

- BDS staff feel that the most pressing infill design issues concern multi-dwelling development.
- Current development standards often do little to encourage good design, and the various levels of requirements often contribute to poor design (for example, reconsidering/streamlining parking requirements were cited as being needed).
- Staff believe a plan book approach to encouraging good design would be more effective than additional regulatory design standards in bringing about good multi-dwelling development (BDS staff liked idea of creating a plan book of good designs that would meet code requirements for multi-dwelling zones. They agreed that this could serve as an effective "path of least resistance" incentive for small-scale developers.)

## **Appendix B: Current Development Trends and Case Studies**

*The Case Studies section of this appendix focuses on rowhouses and multi-dwelling infill development, which constitute the majority of infill development other than detached single family houses. The latter are not covered, as they were the focus of the recent Base Zone Design Standards project.*



## B.1 Current Development Trends

### Data on Infill Development

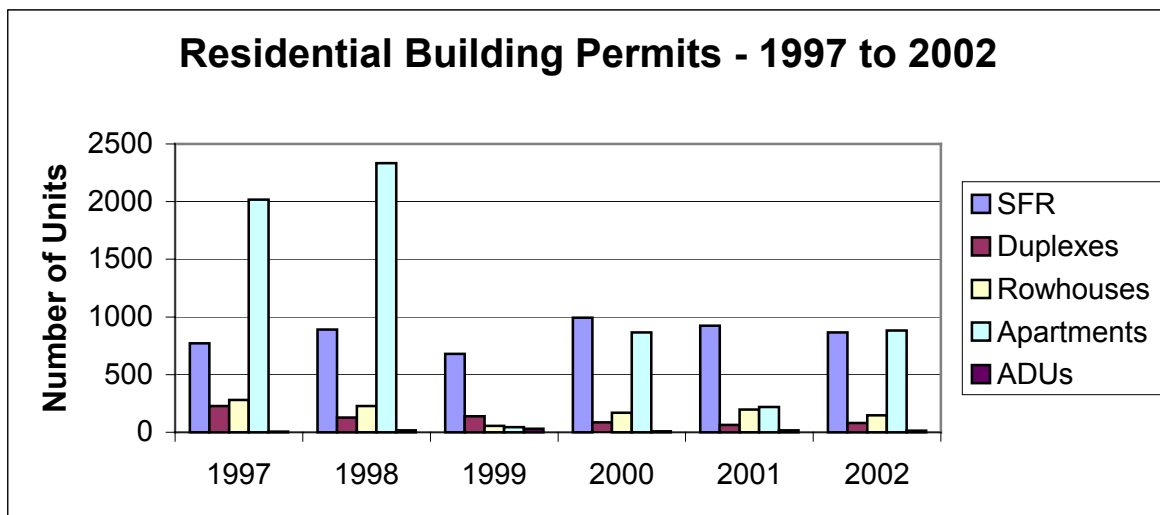
This section summarizes existing data on infill development in Portland, focusing on residential development approved since 1997, when database information became available allowing classification by general project type (duplexes, rowhouses, apartment buildings, etc.).

Over the past six years, detached single-family houses have consistently constituted the most numerous type of infill development project (see Table 1 and the accompanying graph, below). This reflects the fact that single-dwelling residential zones constitute the majority of residentially-zoned land in the city. The number of residential *units* provided by single-dwelling development is exceeded, however, by the number of units provided by apartment development. Rowhouses have also become a large component of new housing construction in Portland, with over 1000 units approved from 1997 through 2002, as indicated in the Table 2 summary. The large amount of rowhouse construction is noteworthy in that they are a relatively new housing type to Portland, having been widely built only since the 1980s.

**Table 1. Residential Permits Issued In Portland from 1997 through 2002**

	1997		1998		1999		2000		2001		2002*	
	Permits	Units	Permits	Units	Permits	Units	Permits	Units	Permits	Units	Permits	Units
<b>SFR</b>	770	772	886	890	676	679	982	993	912	925	857	865
<b>Duplexes</b>	114	228	64	128	70	140	44	87	32	63	40	80
<b>Rowhouses</b>	227	279	227	228	56	56	156	168	192	197	147	148
<b>Apartments</b>	121	2017	150	2333	10	44	61	867	21	219	50	882
<b>ADUs</b>	5	5	18	18	27	30	8	8	18	18	15	15

\*As of September 2002



### Where Infill Development is Happening

City and regional goals call for concentrating higher-density development in mixed-use center and corridors (identified in the 2040 Growth Concept plan as the Central City, town and regional centers, station community areas, and main streets). Table 2 indicates that recent apartment development has been helping to implement this goal, with the majority of apartment units having been constructed in 2040 mixed use areas. While small apartment developments (which make up the majority of apartment projects) are widely scattered throughout the city, larger projects (21 or more units) have been concentrated in 2040 centers, particularly the Central City (see Table 3). The majority of lower-density residential development, in contrast, has occurred outside 2040 mixed use areas. Rowhouses, duplexes, and small apartment building construction has been most concentrated in neighborhoods in Outer Southeast and in Inner North/Northeast. While the larger apartment developments have been built primarily in areas with design review or other design controls, few design controls apply to the areas where the majority of small apartment buildings and rowhouses are being built.

**Table 2. Summary of Residential Development from 1997 through 2002**

	City Totals		2040 Mixed Use areas	
	Permits	Units	Permits	Units
<b>SFR</b>	5083	5124	315	318
<b>Duplexes</b>	364	726	77	154
<b>Rowhouses</b>	1005	1076	336	340
<b>Apartments</b>	413	6362	187	4208
<b>ADUs</b>	91	94	14	14
<b>Total</b>	6956	13382	929	5034

**Table 3. Apartment Projects from 1997 through 2002, Classified by Project Size**

	City Totals	2040 Mixed Use areas
<b>Up to 5 units</b>	199	63
<b>6-20 units</b>	161	85
<b>21-40 units</b>	17	12
<b>&gt;40 units</b>	36	25

Table 4 indicates that of non-residential development (which includes commercial uses as well as industrial development), fewer than a third are occurring in 2040 mixed use areas. The majority of such development is happening in commercial corridors, industrial districts, and other areas outside of designated mixed-use centers and main streets. Additional data needed, but not readily available, is the building square footage and specific type of non-residential development. Such data would answer whether or not larger commercial uses are being clustered in centers and main streets.

**Table 4. New Non-Residential Construction in Portland from 1997 through 2002**

	City Totals	2040 Mixed Use areas
<b>Permits</b>	816	256



## B.2 Case Studies

The following case studies serve as examples of the design of recent infill development. On the left are examples illustrating common infill design problems. On the right are recent projects that are more closely aligned with the City's design goals, serving as examples of infill design solutions achieved under current regulatory parameters.

### Rowhouses

#### Rowhouse Example 1



Neighborhood: Corbett-Terwilliger-Lair Hill (SW)

Zoning: R2

Site size: 8000 sq.ft.

Units: 4

Density: 1 unit per 2000 sq.ft. (22 units/acre)

Notes:

These rowhouses display features common to rowhouses development throughout the city, such as front garages and driveways, frequent curb cuts and loss of all on-street parking, tall stairways, and strong vertical orientation. The frequent curb cuts and tall stairways are no longer permitted on new lots in single-dwelling zones but remain allowed in multi-dwelling and commercial zones (where much rowhouse development occurs). The photo below of nearby rowhouses illustrates typical contextual problems resulting from rowhouses' height and vertical orientation when located near small-scale detached houses, a common juxtaposition in many parts of the city.



#### Rowhouse Example 2



Neighborhood: Sullivan's Gulch (NE)

Zoning: RH

Site size: 11,000 sq.ft. (portion of larger project)

Units: 7

Density: 1 unit per 1571 sq.ft. (28 units/acre)

Notes: Much less common than rowhouses with front garages are those with parking accessed from rear alleys or driveways, as in this example. Rear-accessed garages preserve on-street parking, allow landscaping and ground-level living space and windows, resulting in a good relationship to the public realm. A significant drawback of rear-accessed parking is the loss of private backyard space. Some rowhouse developments (primarily built by non-profit CDCs) provide no parking, providing benefits of both backyard space and good public realm interface, but run counter to apparent market preferences for off-street parking.



Nearby rowhouses, highlighting the role that rear parking can play in preserving established neighborhood streetscape.

### Rowhouse Example 3



Neighborhood: Eliot (NE)  
Zoning: RH  
Site size: 75,760 sq.ft.  
Units: 42  
Density: 1 unit per 1800 sq.ft. (24 units/acre)  
Notes:  
Wider rowhouse lots, as in these 25-foot wide examples, allow preservation of some on-street parking, additional landscaping, and ground-level living space. Drawback is less potential density.

### Multiplex Example 1



Neighborhood: Corbett-Terwilliger-Lair Hill (SW)  
Zoning: R2  
Site size: 7403 sq.ft.  
Units: 7  
Density: 1 unit per 1058 sq.ft. (41 units/acre)  
Notes:  
This 7-plex, with stacked units and a rear parking lot, is an example of an alternative development type to rowhouses that preserves ground floor frontage for living space and landscaping.

## Fourplexes/Multiplexes

### Multiplex Example 2



Neighborhood: Powellhurst-Gilbert (Outer SE)  
Zoning: R2a  
Site size: 11,896 sq.ft.  
Units: 4  
Density: 1 unit per 2974 sq. ft. (14 units/acre)  
Notes:  
This fourplex is typical of small apartment buildings being built in Outer Southeast. Street frontage is dominated by parking facilities.

### Multiplex Example 3



Neighborhood: Eliot (NE)  
Zoning: R2a  
Site size: 7500 sq.ft.  
Units: 4  
Density: 1 unit per 1875 sq.ft. (23 units/acre)  
Notes:  
An example of a fourplex configured to minimize the prominence of parking, allowing for entrances, landscaping, and other architectural features that better relate to the public realm.

### Multiplex Example 4



Neighborhood: Powellhurst-Gilbert (Outer SE)  
Zoning: R2a  
Site size: 10,627 sq.ft.  
Units: 4  
Density: 1 unit per 2657 sq.ft. (16 units/acre)  
Notes:  
Fourplex on a flag lot – a common infill development configuration in Outer Southeast due to deep blocks. Provides poor relationship to the street and compromises backyard privacy.

### Multiplex Example 5



Neighborhood: Northwest District (NW)  
Zoning: RH  
Site size: 3,133 sq.ft.  
Units: 4  
Density: 1 unit per 783 sq. ft. (56 units/acre)  
Notes:  
Fourplex showing that, even on a small site, parking can be arranged to minimize impacts on the streetscape.

## Townhouse Clusters

### Cluster Example 1



Neighborhood: Brentwood/Darlington (Outer SE)  
Zoning: R1a  
Site size: 20,000  
Units: 16  
Density: 1 unit per 1250 sq.ft. (35 units/acre)  
Notes:  
The deep lots of Outer Southeast have made clusters of attached housing, such as this flag lot example, increasingly common. These units are oriented around a surface parking lot.

### Cluster Example 2



Neighborhood: Brentwood/Darlington (Outer SE)  
Zoning: R2.5a  
Site size: 27,000 sq.ft.  
Units: 12 units  
Density: 1 unit per 2250 sq.ft. (19 units/acre)  
Notes:  
This example provides a strong street orientation, while providing a central landscaped courtyard and parking.



## Apartment Buildings

### Apartments Example 1



Neighborhood: Hazelwood (Outer SE)  
Zoning: R1d  
Site size: 9800 sq.ft.  
Units: 8  
Density: 1 unit per 1225 sq.ft. (35 units/acre)  
Notes:  
Though typical of many apartment projects in Outer Southeast, this example was approved through the Community Design Standards. Its barracks-like appearance suggests the limitations of code-based design standards in ensuring satisfactory infill design.

### Apartments Example 3



Neighborhood: Glenfair (Outer SE)  
Zoning: RHd  
Site size: 29,861  
Units: 28  
Density: 1 unit per 1066 sq.ft. (41 units/acre)  
Notes:  
This flag lot development, typical of many in Outer Southeast, makes no contribution to the streetscape while compromising the backyard privacy of neighboring properties. Most open space is devoted to paved vehicle areas.

### Apartments Example 2



Neighborhood: Northwest District (NW)  
Zoning: CS  
Site size: 5789 sq.ft.  
Units: 12  
Density: 1 unit per 482 sq.ft. (90 units/acre)  
Notes:  
Less typical of apartment development outside the Central City, this example's shared garage entrance minimizes the visual impact of parking and includes façade elements that contribute to an urban streetscape.

### Apartments Example 4



Neighborhood: Glenfair (Outer SE)  
Zoning: R1d  
Site size: 75,750  
Units: 54  
Density: 1 unit per 1403 sq.ft. (31 units/acre)  
Notes:  
This non-profit development includes both a strong street orientation and provides a usable and attractive central open space.



### Apartments Example 5



Neighborhood: Powellhurst-Gilbert (Outer SE)  
Zoning: R1a  
Site size: 115,280 sq.ft.  
Units: 111  
Density: 1 unit per 1039 sq.ft. (42 units/acre)  
Notes:  
While a larger project than is typical, this example illustrates a common configuration of apartment units oriented around a surface parking lot.

### Apartments Example 6



Neighborhood: Mill Park (Outer SE)  
Zoning: R1  
Site size: 55,000 sq.ft.  
Units: 39  
Density: 1 unit per 1410 sq.ft. (31 units/acre)  
Notes:  
This example contributes to an urban streetscape while providing a central courtyard/play area sheltered from the busy street.



### Apartments Example 7



Neighborhood: Northwest District (NW)  
Zoning: R1  
Site size: 20,000 sq.ft.  
Units: 19  
Density: 1 unit per 1053 sq.ft. (41 units/acre)  
Notes:  
The façade articulation of this example relates well to its context, breaking up what could otherwise be a single large mass.

## Case Studies Summary

### *General*

- Automobile parking configuration has a key impact on other aspects of design, including interface with the public realm, compatibility with neighborhood context, and the amount of impervious surface and opportunities for landscaping.
- Not surprisingly, design quality and creative responses to neighborhood context correspond strongly to the market value of the project and surrounding area. Well designed examples are most commonly found in up-market areas, such as the Northwest District. An exception are projects built for low-income residents by non-profit community development corporations in lower income areas [such as Apartment Examples 4 and 6], which often feature more context-sensitive design than lower-end market rate housing in the same area. Poorly designed examples are common among market-rate projects in down-market areas, such as Outer Southeast. This likely reflects aspects such as the costs of architectural services, quality materials, façade articulations, and the greater cost of some techniques of minimizing the prominence of parking (such as shared structured parking).
- The previous point suggests that a key challenge in improving the design quality of infill development will be to develop strategies that recognize the limited budgets typical of much private-sector lower-income housing developments.
- Nearly all these multi-dwelling structures are of wood-frame construction. Sheathing materials include wood, wood aggregates, synthetic stucco, brick (usually on up-market projects), with vinyl siding common on down-market projects.
- Note that the relationship between the exterior design of the case studies and the interior configuration of their residential units needs to be explored to more fully dimension the attendant design issues.
- Additional information that will be needed for a more thorough case study analysis include: site plans, floor plans, context views, parking spaces per unit, building materials, development costs, etc.

### *Rowhouses*

- As noted previously, the typical rowhouse features of Example 1 of garage-dominated ground floors, frequent curb cuts and loss of all on-street parking, are no longer allowed on new lots in single-dwelling zones (due to community concerns raised during the Land Division Code Rewrite project). These features are, however, still allowed in multi-dwelling and commercial zones, where the majority of rowhouse development is occurring. Rowhouses exhibiting such features continue to be a significant neighborhood concern in areas, such as the Northwest District, where most rowhouse development is occurring in commercial and multi-dwelling zones
- Rowhouse Examples 2 and 3, though much less representative of rowhouse development than Example 1, illustrate that alternative parking configurations are possible that relate better to the public realm and preserve on-street parking. They also, however, illustrate some of the less positive trade-offs that would result if the parking configuration of Example 1 were prohibited for all rowhouse development, such as:
  - Loss of private backyards to rear parking.
  - Rear parking is frequently not feasible on typical infill sites.
  - Wider rowhouses with front garages, while allowing off-street parking in the many situations in which rear parking is not possible, results in less potential density than currently possible (note that the density of the Example 3 rowhouses is higher than is typical for 25-foot wide lots due to their unusually shallow lot depth).

- Also, the option of including no parking may not be realistically feasible in most projects due to market demand for off-street parking. This demand could potentially be met by reserving on-street parking, that would normally be lost to curbcuts, for parking by residents. This would reduce the need for driveway paving and preserve potential for front setback landscaping, but conflicts with City transportation policy that requires preservation of the right-of-way for public use.
- Example 2 illustrates that rowhouses with contemporary design can respond well to an established neighborhood context of single family homes (not visible in photo) by preserving setbacks for landscaping, locating entrances close to ground level, and division into building volumes that acknowledge neighborhood scale – achieving a more holistic contextualism than Example 1, despite Example 1’s traditional gabled roofs.

### ***Fourplexes/Multiplexes***

- Fourplexes and other small apartment buildings, due to their historically house-like form, have been suggested as a more contextually appropriate alternative to rowhouses for Portland neighborhoods. Example 1 shows how a small apartment project with stacked units and a shared rear parking area with a single curb cut can serve as a contextually appropriate alternative to rowhouses in a zone (R2) and neighborhood where rowhouses with front garages have been the norm (while also achieving greater density than typical rowhouse developments).
- However, Example 2 illustrates that fourplexes, as they are currently being built, are not free of the garage and driveway dominated frontages that are the subject of much rowhouse criticism. This example reflects the fact that apartment buildings are not subject to the prohibitions of garage-forward designs that apply to detached houses, rowhouses, and duplexes.
- While Examples 3 and 5 suggest that parking for fourplexes can be arranged in ways that minimizes its prominence, its impact on project cost needs further evaluation (Example 3, representative of several similar projects in Inner North/Northeast Portland targeted to the lower-income rental housing market, suggests that structured parking in such development may be feasible).

### ***Townhouse Clusters***

- These examples illustrate both the opportunities and problems associated with the deep parcels common in Outer Southeast Portland, where much of Portland’s multidwelling development is happening.
- Example 2 illustrates the opportunity that deep parcels provide for allowing the orientation of attached units around shared outdoor space, providing an amenity often not possible on the smaller, more constrained infill sites common in close-in neighborhoods.
- Example 1, however, is representative of much of the infill development now occurring on deep lots in multi-dwelling zones in Outer Southeast, which are sometimes developed as flag lots with most open area devoted to surface parking and with little contribution to the streetscape or the public realm.

### ***Apartment Buildings***

- The great diversity of site arrangements and associated design issues typical of larger apartment developments outside the Central City make the application of design standards focusing on the interface with the public realm problematic. In many projects, particularly in Outer Southeast areas, only a small portion (if any) of the development is oriented to a public street. Of greater prominence in apartment development design, compared to detached and attached housing development, are broader site design issues, such as the

arrangement and utilization of open space, and the relationship of the project to adjacent properties and neighborhood context.

- Examples 3 and 5 illustrate apartment complex configurations, especially common in Outer Southeast, in which buildings are oriented around paved vehicle areas, with landscaping primarily restricted to narrow bands of property setbacks and parking lots.
- Examples 4 and 5, in contrast, provide usable recreation/outdoor space as their central focus, with surface parking relegated to project edges. The contrast between these examples and the previous two suggest that differing arrangements of similar site elements (buildings, parking areas, landscaping/open space) can result in widely differing levels of residential amenities and development character.
- Requiring further analysis, however, are the effects of minimum density requirements, parking needs and economics (the constrained project budgets of down-market developments tend to result in land-consuming surface parking) on the possibility of providing open space amenities (note the comparatively lower densities of Examples 4 and 5, compared to Examples 3 and 5).
- Examples 2 and 7 show the effect façade articulation and attractive building materials have on contributing to a visually-interesting urban streetscape, especially in contrast to the monolithic façade, massing and vinyl siding of Example 1. The much more upscale housing market to which the former examples are targeted, however, suggest that their architectural features may not be economically feasible in the case of Example 1, emphasizing the challenges in encouraging quality design in down-market developments (even in a light rail station community area with a design overlay, as is the case in Example 1).



# Appendix C: Historic and Regulatory Trends and Context



## C.1 Historic Context

To provide additional context, this section presents a brief overview of historic trends in the design of multi-dwelling structures in Portland, focussing on neighborhoods outside the Central City.

### The Streetcar Era

During the first half of the 20<sup>th</sup> century, residential development in Portland expanded rapidly with the extension of streetcar routes, especially on the eastside of the city. Residential development during the Streetcar Era included a diverse range of multi-dwelling housing types, which continue to contribute to the character of Portland's older neighborhoods. Professor Peter Keyes of the University of Oregon's Department of Architecture has studied Portland apartment buildings of the Streetcar Era and divides them into the following typology.



**Quadplexes.** Four unit, two-story buildings of stacked flats, often of similar massing and architectural style to nearby detached houses.



**Rowhouses.** Buildings of attached units, where each unit has its own entry from a public street.  
Note: Portland Streetcar Era rowhouses were typically only a single story, with small units (typically no larger than 600 sq.ft.) more akin to apartment units of the same era than to the multi-story rowhouses typical of the East Coast and contemporary Portland.



**Courtyard housing.** Buildings of attached units oriented around a common courtyard, usually landscaped, extending from a public street.



**Block apartment buildings.** Multi-story apartment buildings with a common front door and central interior circulation provided by double loaded corridors.



**Split-block apartment buildings.** Multi-story apartment buildings where the building mass is split by a narrow court, providing access to a main entrance and allowing two building wings of double-loaded corridors.



**Mixed-use buildings.** Buildings, usually in block form, with residential units above commercial space.

During the Streetcar Era, larger multi-dwelling structures, such as block and split-block apartment buildings, as well as mixed-use buildings, were typically built along or near the streetcar lines or in neighborhoods close to downtown. These structures' multi-story facades, minimal or non-existent setbacks and landscaping, as well as their general lack of parking facilities, contributed to a distinctly urban streetscape. Their contribution to the city's architectural character is especially apparent in the Northwest District.

Multi-dwelling structures further removed from the streetcar lines and downtown, in areas where detached houses predominated, tended to reflect the form and landscaping of the detached houses. Examples include quadplexes that appear similar to large houses, as well as courtyard apartments whose courtyards continue the landscaped emphasis of the surrounding neighborhood and whose building wing street frontages reflect the scale of nearby detached houses.

### **The Automobile Age**

During the post-World War II period, the form and orientation of multi-dwelling structures reflected the increasing importance of the automobile and its need for storage. For example, by the 1940s and 1950s, courtyard apartments on corner sites would often have an entire area of block frontage lined with garages, although the central courtyards were still landscaped. Later, and continuing to the present, new apartment buildings typically devoted their central "courtyards" to surface parking.

By the 1960s and 1970s, other multi-dwelling building types likewise devoted much of their frontage to automobile parking areas. Three and four unit plexes often had most of their front setbacks designed for surface parking, with few or no street-facing windows. During the 1970s, larger, often L-shaped apartment buildings, characterized by front surface parking and sometimes windowless façade areas close to the sidewalk, were built in large numbers in close-in neighborhoods, such as Buckman. Their prominent surface parking areas provided a poor relationship to the public realm and contrasted sharply with the front yard landscaping and street-oriented facades of nearby pre-war detached houses.



### **Recent Developments**

The 1980s saw the rise in popularity of rowhouses. This was made possible by the resurgent popularity of close-in urban living, demographic changes such as smaller household sizes, and Zoning Code changes, such as the creation of the R2.5 zone, that facilitated the construction of rowhouses. By the late 1990s and early 2000s, more permits were being issued for rowhouses than all other multi-dwelling housing types combined (note, however, that the Zoning code classifies rowhouses as "attached houses," rather than as multi-dwelling structures). These contemporary rowhouses are two or three stories in height, typically with the ground floor frontage occupied by garage doors. While rowhouses contribute to the city's diversity of housing types and have proven quite marketable, the garage- and driveway-dominated frontage

of rowhouse developments often detract from the landscaped character of established neighborhoods and interrupt the pedestrian environment and active uses of commercial streets.

Other recent trends have followed from the annexation into the city in the 1980s and 1990s of large areas of mid-Multnomah County east of the I-205 freeway. In contrast to the typically 200-foot deep blocks and 100-foot deep parcels that characterize Portland's Streetcar Era neighborhoods, much deeper blocks and larger parcels are common in these "Outer East" additions to the city. This has resulted in site configurations and development types that differ considerably from those found in Portland's older neighborhoods. For example, a common development type in Outer East are apartment complexes, in which the majority of buildings within a cluster of apartment buildings have no orientation to a public street and are often surrounded by surface parking areas (in contrast, Streetcar Era apartment buildings were typically built on relatively small, separate parcels and oriented to the street). Another trend in Outer East Portland resulting from block and parcel configurations is the development of apartment buildings on flag lots, often set behind existing detached houses, resulting in apartment developments with no orientation to public streets and that disrupt the traditional relationship of the "public realm" orientation of street-facing facades and the "private realm" of back yards and block interiors.

## C.2 Regulatory and Policy Framework

### Policy Framework

Numerous city policies address infill design, both directly and indirectly:

#### ***Comprehensive Plan: Goal 12, Urban Design***

Goal 12 calls for development that: is human-scaled, preserves public access to light and air, incorporates features that enhance the distinct character of neighborhoods and districts, enhances the natural environment, incorporates thematic elements that reinforce Portland's desired identity, incorporates innovative design solutions that add diversity and depth to Portland's character, provides a model of innovation and leadership in design, uses materials that are lasting and beautiful, contributes to a quality pedestrian environment, incorporates preservation of historic structures and artifacts, respects the fabric of and is compatible with established neighborhoods and/or is a new building type that is added to the established area with respect for the existing context. Goal 12 also calls for development in commercial districts that contributes to an attractive urban character that is oriented to pedestrians, and for a regulatory framework that provides design districts and zoning standards that address problems that emerge when new infill development is at a greater density than existing development.

#### ***Comprehensive Plan: Related Goals***

Goal 12 is augmented and/or balanced by language in other goals of the Comprehensive Plan, including: Goal 2, Urban Development; Goal 4, Housing; Goal 6, Transportation; Goal 7, Energy, and Goal 10, Plan Review and Administration. These goals call for development that is energy efficient, that doesn't overburden the transportation system, that considers solar access, that provides residents with air quality and access to sunlight, that protects residents from noise and weather, that promotes a range of housing types, that locates medium and high-density residential in transit-oriented developments, that allows for zero-lot line, small-lot, and accessory dwelling unit development in low and medium density

residential zones, that locates entrances to commercial development in a way that is convenient to transit users, pedestrians, and bicyclists, and that limits the location of auto-oriented development and discourages the development of new strip commercial areas.

### ***Comprehensive Plan Map***

The Comprehensive Plan map and its accompanying text descriptions provide very generalized guidance on the scale and type of development intended for particular locations of the city. For example, the Medium Density Multi-Dwelling designation (R1) description indicates that, “The scale of development is intended to reflect the allowed densities while being compatible with nearby single-dwelling areas.”

### ***Community, Area, and Neighborhood Plans***

Various adopted plans add specificity to the Comprehensive Plan for particular areas of town. For example, the Hollywood-Sandy Plan includes an objective that reads, “Encourage new development located at the gateways to contribute to the sense of entry into the Hollywood District (refer to the urban design concept).”

### ***Urban Design Concept Maps***

The Comprehensive Plan and the Community, Area, and Neighborhood Plans, include maps detailing desired urban design features such as gateways, focal points, and development types. While these maps may be implemented with particular action items and regulations adopted with the plan, the connection between concept and implementation is not always clear.

## **Regulatory Framework**

Design is an integral component of Portland’s regulatory framework. Depending on the location of new development, it may be required to meet clear and objective design-related development standards or be required to go through discretionary design review against design guidelines. Some zoning designations also provide incentives, such as additional density or FAR, for projects that opt to voluntarily meet design standards or go through design review.

### ***Base zone standards***

In the base zones, development standards regulate building height, mass, setbacks, windows, parking, landscaping, and other basic features of all development types.

### ***Special standards for detached and attached houses and duplexes***

Detached houses and duplexes in all zones must meet “base zone design standards” that regulate garage placement, window coverage, and structural articulation. Development on narrow lots created in the R10-R2.5 zones under the new land division regulations must meet additional design standards.

### ***Design Overlay Zone (“d” overlay)***

Most development within the design overlay zone must go through design review.

### ***Alternative Density Design Overlay Zone (“a” overlay)***

Development within the “a” overlay zone may take advantage of additional density in exchange for voluntarily going through design review. The “a” also includes additional alternative development provisions.

### ***Design Review***

Outside of the Central City, development that is required to go through design review will usually have access to a two-track system, and can choose between meeting clear and objective community design standards, or going through a discretionary review against design guidelines. Under current state law, residential development outside of the Central City must have access to a clear and objective standards track for design review.

### ***Community Design Standards***

These are the standards that projects must meet if they opt for the clear and objective standards track of design review. Application of the community design standards will vary by location (for example, there are specific standards that apply only in southwest Portland). The standards regulate aspects such as roof pitch, location and design of main entrances, porches and balconies, vehicle access, foundation materials, exterior finish materials, architectural features, windows, trim, roof eaves, and building massing. There are additional standards that apply in the multi-dwelling, commercial, and industrial zones that affect landscaping, site design, and buffering.

### ***Design Guidelines***

Design guidelines are approval criteria that projects must meet that are going through discretionary design review. There are different sets of design guidelines that apply in different locations. Certain locations are affected by overlapping design guidelines. Areas where specific design guidelines have not been adopted are subject to the “Community Design Guidelines.”

## **Programs and Incentives**

The City has also taken non-regulatory approaches to design:

### ***Mayor’s Design Initiative***

The Mayor has recently kicked off a Design Initiative. This process is primarily focused on ensuring that larger, publicly-funded projects are achieving architectural excellence. The Mayor has convened a Citywide Design Initiative Team which consists of a group of design experts who will participate in reviewing potential city-sponsored development projects.

### ***Education and Pilot Projects***

In the past, the City has worked with various partners, including the Portland Chapter of the AIA to create educational materials, guidebooks, demonstration projects, and competitions to encourage innovative or compatibly designed infill development. While some of these efforts formed the basis of Portland’s regulatory framework or resulted in on-the-ground development, anecdotal evidence suggests that there is little continuing awareness in the development community of these demonstration projects and guidebooks.

### ***Subsidy and Negotiation***

The City affects the design of development through various public subsidies and negotiated processes. In cases where the Portland Development Commission is a partner in a public-private development, it is customary to create a development agreement between the private developer and the City that lays out what the City and the developer have committed to providing to the project. These agreements often include commitments by the developer to provide design amenities, including higher level materials, landscaping, or particular development programming that leads to a better designed site. The City’s transit-oriented development tax abatement program offers a tax incentive to developing high density housing that is transit oriented and PDC has the authority to require site design which

supports this transit orientation. PDC's storefront improvement program provides direct grants to business owners who commit to improving the appearance of their storefronts in specific geographic areas. While the City may or may not be a partner in a particular project, housing developed by the Housing Authority and non-profit Community Development Corporations may include design amenities that wouldn't otherwise be included in housing targeted to low-income consumers, in part because of the availability of public housing subsidies.



## C.3 Past Planning Efforts

The Bureau of Planning has coordinated multiple past projects to study the issue of infill design, create incentives for well-designed infill, or create new design-related regulations:

### Incentives and Studies

#### ***The 10 Essentials for North/Northeast Portland Housing: Guidelines for Renovations and New Construction (1991)***

Authored by the Portland Chapter of the AIA, this booklet provides guidance on designing context-sensitive infill development and renovation in Portland's Albina district.

#### ***New House Designs for North/Northeast Portland: Entries in the Essential Housing Competition (1991)***

The Bureau of Planning cooperated with the AIA to publish winners of a design competition for infill housing for North/Northeast Portland. It was hoped that the winning entries, which were constructed on two infill sites in the Albina district, together with the other designs included in this document would serve as examples of good infill design that would serve to improve the design quality of future infill development.

#### ***Martin Luther King Jr. Blvd.: Site Planning Study (1991)***

This PDC-commissioned study, though specific to Martin Luther King Jr. Boulevard, provides an analysis of multi-dwelling and commercial zone development standards from the perspective of developers and market preferences. It also illustrates and discusses various development types and configurations allowed by the multi-dwelling and commercial zones.

#### ***Infill Development: Market Trends and Prototypes (1993)***

This report analyzes market trends and their implications for the feasibility of various infill housing types.

#### ***Picture This...: The Results of a Visual Preferences Survey (1993)***

This document reports the results of a visual preferences survey sponsored by the City of Portland and other Portland area jurisdictions. It reports on participants' preferences regarding building and right-of-way design in transit station areas, main streets, and neighborhoods.

#### ***Growing Better: A Report to the Planning Commission on Phase I of the Livable City Project (1993)***

Summarized development trends, reported on pilot projects to test development scenarios, and presented four concepts for how growth should be accommodated, including a focus on development in the central city, transit stations and main streets, and on neighborhood infill. The report emphasized the importance having infill development be compatible with local neighborhoods in scale, use, and design; and emphasized the importance of ensuring the attractiveness of areas proposed for more intense development. The report recommended City involvement in demonstration projects of higher-density development, private/public partnerships, and reconsideration of development standards.

***City Life Housing Design Competition (1994)***

Winning designs for rowhouses, attached courtyard homes, and a duplexes were built as a demonstration project in the Brooklyn neighborhood. A goal of the competition was to highlight well-designed infill development that could inspire quality development elsewhere in the city.

***Housing Alternatives for Our Neighborhoods (1994)***

This guidebook highlighted well-designed examples of infill design housing types, including rowhouses, stacked-unit multiplex housing, courtyard housing, and mixed-use housing.

***Building Blocks for Outer Southeast Neighborhoods (1996)***

Authored by Portland Community Design, this guidebook highlights ways of integrating new houses, multi-dwelling and commercial development into Outer Southeast neighborhoods in context-sensitive ways.

**Regulations**

***Community Design Standards and Community Design Guidelines project (1997)***

This project analyzed the effectiveness of the previously adopted “Supplemental Compatibility Standards” and rewrote those standards to function on a broader citywide level.

***Base Zone Design Standards project (1999)***

This project addressed detached single dwelling residential design and, to a lesser extent, rowhouse design. The project incorporated regulations into the base zone provisions of the zoning code that apply to single-dwelling development in all zones. The provisions prevent garage forward design and require visible connection between entrance and public realm.

***Hollywood and Sandy Plan (2000)***

This project addressed revitalization and redevelopment of the Hollywood Town Center and Sandy Main Street. The project resulted in the creation of new overlay zones for Main Street Nodes and Corridors. These overlay zones allow higher density development on Sandy Boulevard, while requiring a step-down transition to adjacent single-dwelling zones. The provisions are only applicable within the Hollywood Plan District, but are intended to form the basis of future regulations for infill along other main streets.

***Land Division Code Rewrite project (2001)***

This project was primarily focused on creating new regulations for the configuration of lots and streets in new subdivisions. The project created a new “Planned Development” process that allows developers additional lot configuration flexibility in exchange for reviewing some aspects of building design at the land division phase, and created new “narrow lot design standards” that apply to residential development on newly-created narrow lots in the single-dwelling zones.

***ADU Monitoring (2001)***

This monitoring project examined whether accessory dwelling units being built under the provisions of the base zones and “a” overlay zone are achieving city policy goals, including goals related to design. In 1998 the city liberalized the regulations for accessory dwelling units in the base zones, and this project was intended to monitor the outcome of that work.

## C.4 Potential regulatory barriers and gaps

### **Regulatory complexity**

The Zoning Code has gained considerable complexity in the years since it was rewritten in 1991. Any given site may be subject to multiple overlapping use and development standards. While the regulations have increased the level of certainty that projects will be built that meet public policy goals, the overall complexity can be daunting to developers, may add to project costs, and can lead to unintended consequences.

### **Design standards that preempt innovative design**

While prescriptive design standards are often effective at preventing exceptionally bad design, they may also prevent exceptionally good design. Developers can often request adjustments or modifications through design review; however, these processes may be perceived as onerous, or may not be available in cases where adjustments to a particular regulation are prohibited.

### **Other development standards**

Parking and access requirements, density requirements, environmental zone limitations, and other development standards also circumscribe the design choices a project can make.

### **Potential gaps identified**

There may be areas of the code where regulations are not prescriptive enough or that allow for development that does not meet the intent of the code. Some potential gaps have been identified during the course of past planning projects and by citizens:

- Measurement of height on sloping lots has been identified as an issue by residents in SW Portland;
- Absence of minimum dimensions for lots of record in the R2.5 and R5 zones has been identified by residents in Outer East Portland;
- The “a” overlay may be too restrictive with regard to accessory dwelling units, too liberal with regard to other alternative development types;
- Few design related protections for multidwelling development in the multidwelling zones outside of centers and corridors (base zone design standards cover single dwelling development; commercial zone standards cover development happening in commercial zones; design review covers development happening in mixed-use centers);
- Fewer design controls for narrow lot rowhouses happening on existing lots, or lots in multi-dwelling or commercial zones (narrow lot design standards added by land division rewrite only apply to rowhouses on newly created narrow lots in the residential zones).

### **Additional gaps**

Key aspects of infill design not covered by Portland's development regulations include those related to the very context-specific nature of infill design. These include:

- Development standards regulating building setbacks, height and mass often do not correspond to the particular neighborhood context of a site. This allows, for example, development whose front setbacks and building massing contrast sharply with the existing neighborhood. Other cities (and, to a limited extent, Portland) have used context-based regulatory strategies to address these issues, such as basing front building setbacks, building height, and front façade planes on those of adjacent properties.
- Regulations do not address the solar access and privacy impacts of infill development, which are often keys concerns of site neighbors.

Regulations that that address site-specific aspects, such as those above, add to regulatory complexity, development costs, and are often time-consuming and difficult to administer. Portland has in the past utilized such regulations, but they have been discontinued because of their complexity and the frequent need for adjustments.