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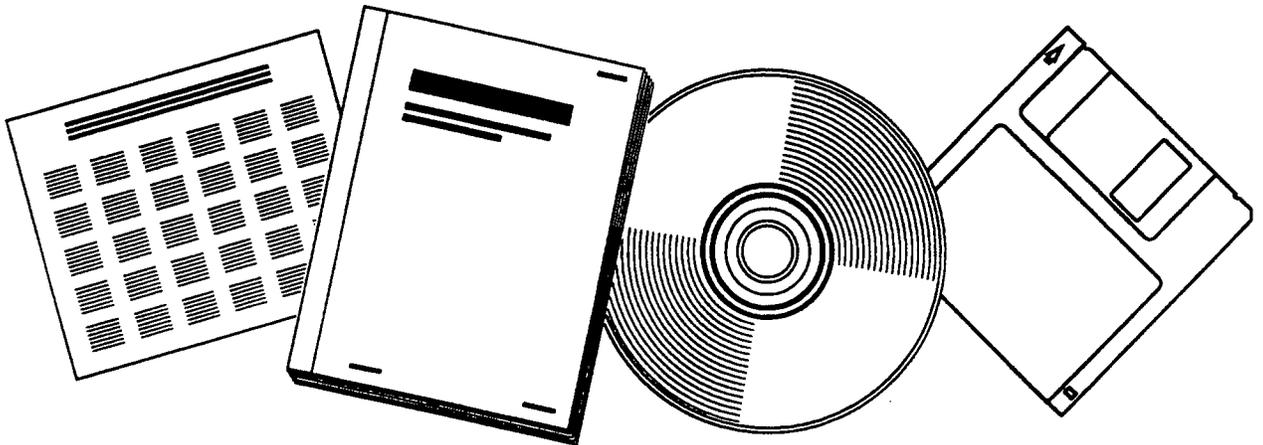
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# CREATING TRANSIT-SUPPORTIVE LAND-USE REGULATIONS

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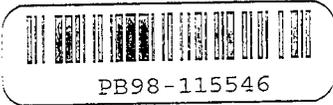


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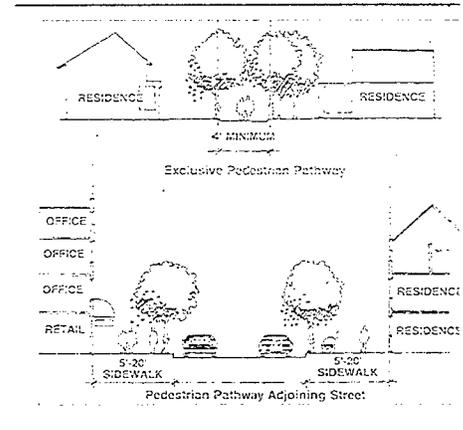
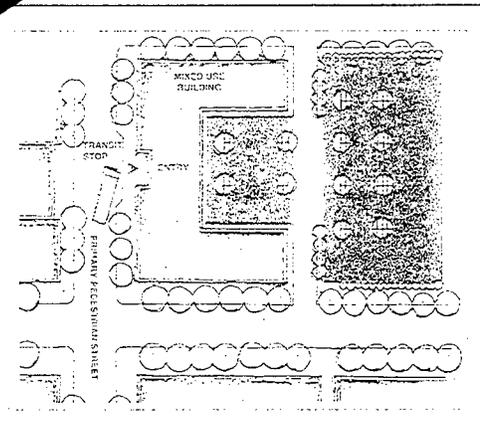
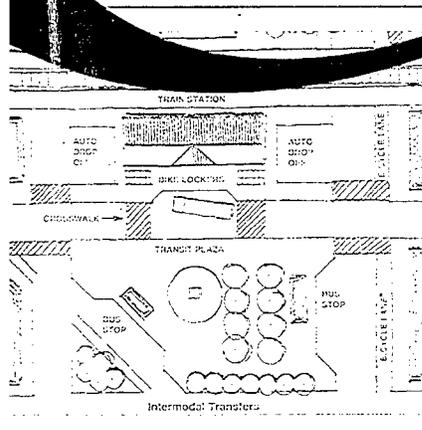
Planning



Transit-Supportive

Land-Use

Regulations



Edited by Marya Morris

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# Creating Transit-Supportive Land-Use Regulations

## A Compendium of Codes, Standards, and Guidelines

EDITED BY MARYA MORRIS, AICP

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# Introduction

Land-use patterns and site development practices can have a significant effect on the efficiency, convenience, and cost effectiveness of transit, pedestrian, and bicycle circulation systems. This report provides sample code provisions compiled from communities in Washington and other states that offer creative implementation strategies to achieve a more balanced transportation system. The goal of a balanced transportation system is to offer community residents a variety of travel choices. The code provisions in this report focus on shaping land-use patterns and influencing site development practices to encourage transit, pedestrian, and bicycle travel.

The purpose of this report is to assist public officials, planning commissioners, land-use and transportation planners, transit operators, developers and designers, community representatives, and individual citizens in implementing transit-supportive transportation and growth management goals and policies. The code excerpts provide language that can be helpful with the difficult task of putting implementation concepts into words. In addition, the excerpts suggest the many factors that should be addressed for an ordinance to be effective.

## HOW TO USE THIS REPORT

This report is organized into chapters covering four categories of implementation measures. The chapters address site design requirements; parking; mixed-use development; and density requirements and incentives. Each chapter presents an array of implementation issues, along with a variety of code language, to address different circumstances and regulatory styles. Most sections contain introductory comments describing the purpose and benefits of the measures, as well as some notes about precautions that should be taken. Note that, because the code provisions are excerpted from a variety of sources, there are inconsistencies in format and word usage.

These implementation strategies will work well in a variety of community situations. Some are best suited for urban infill situations, while others may be particularly effective in newly developing areas. Each community should carefully consider each ordinance provision before selecting and adapting it for its own use. Furthermore, the following points should be considered in using the ordinance provisions offered in this report.

- Select only those provisions that implement your community's specific goals and policies. These approaches should be guided and supported by comprehensive plan policies. If using these provisions means that you may need to change existing policy, have the community review your policies and amend them or add new policies to your plan to ensure consistency between the plan and the provisions.
- Adapt each provision to match your community's unique circumstances and needs.
- Review and discuss alternative implementation approaches with the public before proposing code

language. No matter how well written, ordinance provisions may never be completely accepted if the processes for developing them do not fully include the public. Code provisions that are "borrowed" should go through the same thorough public inspection as those developed in house.

- Recognize that adopting one provision may require that other sections of the code be amended.
- Review implementation measures with legal counsel and select provisions that are within your community's comfort level. Although these code provisions have received some legal review, they should not be assumed to be "challenge proof."
- Select or adapt provisions that match your community's preferred regulatory approach. Some provisions are prescriptive, spelling out specific actions that must be taken. Others offer flexibility and choice while still trying to encourage certain actions. For aspects of a community's growth management and transportation program that are of key importance, mandatory requirements or very compelling incentives should be considered.

## A WORD ABOUT PERMIT PROCESSES

The best code provisions may face strenuous opposition if the permit processes for applying them involve too many hoops or unreasonable time and effort. The purpose of this report is not to address which permit process is appropriate for the many and varied communities that may use the concepts and code excerpts. But because many ordinances are challenged on procedural grounds, a brief comment is appropriate.

To the extent possible, development standards and guidelines should be specified up front, clarifying when a use is acceptable in a particular type of location. At the same time, ordinances that offer flexibility and choice will be appreciated by the development community. Requirements can often be specified in the form of performance standards that describe a required result but allow flexibility in how an applicant achieves that result. For instance, a performance standard may require that a parking lot be screened from view from the street level of any public street or other public place. The site designer can then choose whether to accomplish that objective through dense landscaping, using an elevation change, or another approach that helps meet the standard.

This report also offers examples of planned unit development (PUD) provisions and density transfer and other regulations that allow flexibility.

In reviewing these ordinance examples, consider the many ways communities clearly state what they want while still offering flexibility for creative design. An ordinance that successfully combines these two objectives will go a long way toward achieving transit-supportive land-use design.



# Chapter 1. Transit- and Pedestrian-Friendly Site Design

Transit-supportive communities and sites are generally synonymous with pedestrian- and bicycle-friendly communities and sites. Transit users begin their trips by walking from their homes to the nearest transit stop and then walking to their destination at the end of their transit trip. They are switching modes (from walking to transit and vice versa) to complete one trip. As a result, the success of a transit system will depend in part on the quality of supporting pedestrian systems.

Interjecting pedestrian and bicycle circulation provisions into site design guidelines in newly developing suburban communities areas can effectively make walking and public transportation competitive with the automobile. Suburban developments often lack the continuous sidewalk networks that are common in older cities. It is important that their codes be adopted or revised to accommodate the strategies proposed in this report. A key finding from the Portland LUTRAQ (land use/transportation/air quality) study by 1,000 Friends of Oregon illustrates the significance such improvements can have in suburban settings: vehicle miles traveled (VMT) could be reduced by 10 percent in the suburbs by creating a pedestrian-oriented environment similar to what already exists in old Portland neighborhoods (Oliver 1994).

The following provisions offer site design guidelines and requirements that redirect private developments toward more balanced transportation solutions and that encourage transit, bicycling, and walking. They cover issues of convenience, safety, comfort, and attractiveness.

as direct as possible. Routes will appear significantly less convenient if there are missing links in the pathway system. Because bicycles can quadruple the speed of travel, they greatly extend the area that can be served by a combined bicycle/transit journey. The following provisions address site design approaches that will create a continuous, direct, convenient network of pathways to provide a practical alternative to the automobile.

## Providing Convenient Paths and Connections

A well-connected network of pathways should link residential and business development with popular destinations, such as shopping and employment centers, transit stops, schools, and parks. Similarly, within individual developments, pathways should directly link buildings, parking areas, recreation areas, convenience stores, services, and other areas of interest.

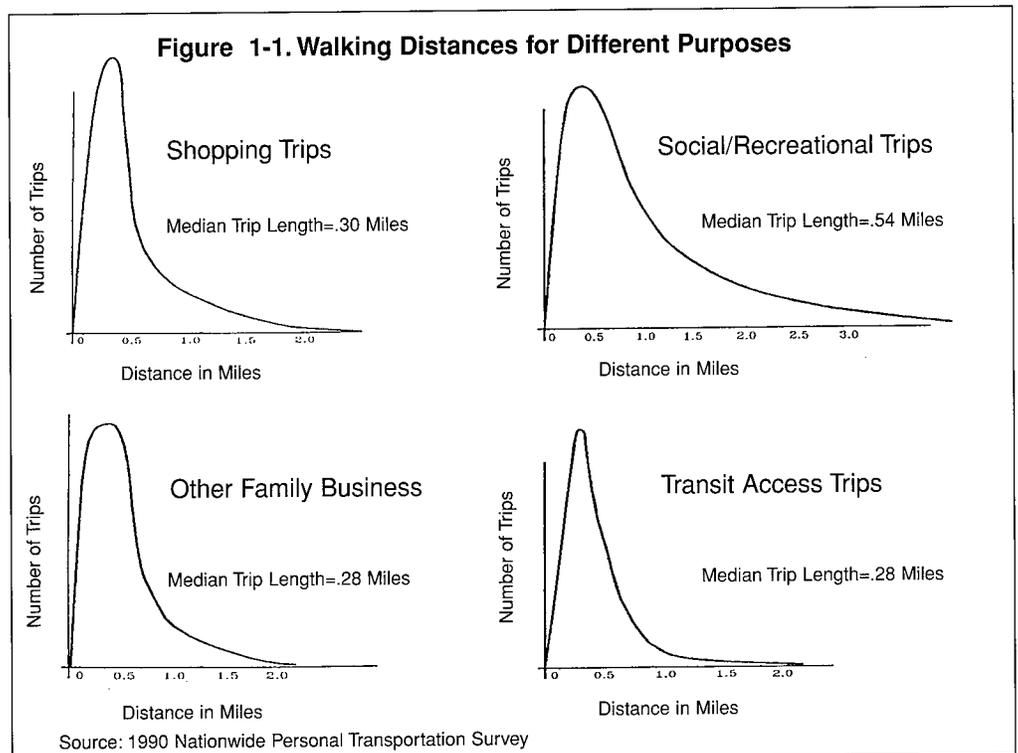
*An on-site pedestrian circulation system that links the street and the primary entrances of the structure(s) on the site shall be provided. Sidewalks or pedestrian ways must connect the required pedestrian system to existing pedestrian systems on adjacent developments if adequate safety and security can be maintained. Convenient pedestrian access to transit stops shall be provided.*

[Clark County, Washington]

*All new residential developments should (shall) provide public pedestrian access to and through the development, and to*

## CONTINUOUS, DIRECT, CONVENIENT LINKAGES

Transit, bicycle, and pedestrian routes and facilities must offer an acceptable level of convenience if they are to provide a realistic travel alternative to the automobile. Walking or riding distance and time particularly influence how convenient a transportation alternative appears to the traveler. According to the 1990 National Personal Transportation Survey, the average person is willing to walk about 1,500 feet to shopping areas or to a transit stop. The number of people willing to walk longer distances to those distances drops off significantly when distances exceed 1,500 feet. To minimize travel distances, routes must be



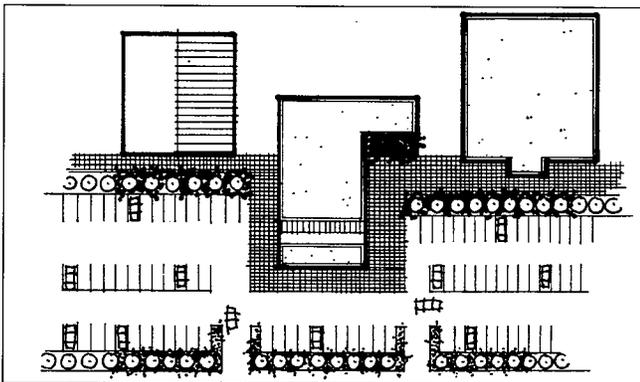
parks, schools, and Activity Centers. The access should (shall) be a direct and convenient link to existing or planned routes and trails beyond each development. All developments should (shall) provide sidewalks or walkways designed to decrease the distance between parking areas, building entrances, bus stops, recreation facilities, external sidewalks, and to other destination points.

**[King County, Washington, Soos Creek Community Plan Update and Area Zoning]**

Pedestrian walkways shall form an on-site circulation system that minimizes the conflict between pedestrians and traffic at all points of pedestrian access to on-site parking and building entrances. Pedestrian walkways shall connect building entrances to one another and from building entrances to public street entrances and existing or planned transit stops.

Pedestrian walkways shall be provided when the pedestrian access point or any parking space is more than 75 feet from the building entrance or principal on-site destination as follows:

1. All developments that contain more than one building shall provide walkways between the principal entrances of the buildings;



**Figure 1-2. Walkways Linking Buildings**

2. All nonresidential buildings set back more than 100 feet from the public right-of-way shall provide for direct pedestrian access from the building to buildings on adjacent lots.

**[Metro-proposed language for King County, Washington]**

The proposed subdivision is laid out to provide safe, convenient, and direct bicycle and pedestrian access to nearby and adjacent residential areas, transit stops, neighborhood activity centers such as schools and parks, commercial areas, and industrial areas, and to provide safe, convenient, and direct transit circulation. At a minimum, nearby is interpreted to mean uses within 1/4 mile that can reasonably be expected to be used by pedestrians and uses within 1 to 2 miles that can reasonably be expected to be used by bicyclists.

**[Eugene, Oregon, decision criterion for subdivisions]**

Official plans, or subdivision guidelines adopted by the municipality, should state that significant majority of residences, jobs, or other activities/uses should be located within 400 meters of a transit stop. [Examples of possible implementation criteria include:]

- 90% of residences, jobs, or other activities/uses should be

- located within 400m walking distance of a transit stop, or;
- 65% of residences, jobs, or other activities/uses should be located within 200m walking distance of a transit stop.

**[Ontario Ministry of Transportation Guideline 3.4.1]**

Bikeways shall be provided, where possible, to link internal open space areas with peripheral open space areas and continuing. . . through peripheral open space areas. Bikeways do not have to be marked on local residential streets with low average daily traffic. Bikeways are required on access and entry roads and on boulevards with high average daily traffic. Bikeways shall be a minimum of six feet wide.

**[Nelessen model ordinance]**

The pedestrian system must provide clear, comfortable, and direct pedestrian access to the core commercial areas and he transit stop.

**[Sacramento County, California]**

**Accommodating Pedestrians and Bicyclists in Street Rights-of-Way**

In general, sidewalks and bicycle routes within the street right-of-way are the most visible and safest for pedestrians and cyclists. It is also generally cheaper to locate pathways within a street right-of-way.

Sidewalks shall be constructed along the frontage of all public streets and within and along the frontage of all new development or redevelopment.

**[Oregon Chapter of APA]**

Sidewalks are required on both sides of all streets.

**[Oregon Chapter of APA]**

Sidewalks shall be provided along arterials and collectors in urban areas. Bikeways shall be provided along arterials and major collectors.

**[Oregon Transportation Planning Rule]**

Location of sidewalks. Sidewalks should be located along both sides of each road serving as a transit route. Ideally, sidewalks should also be built along at least one side of each local street which provides direct access to a transit route.

**[Ontario Ministry of Transportation Guideline 3.4.1]**

Sidewalks are required on all streets in [transit-oriented developments] and Secondary Areas. Sidewalks must be at least 6 feet wide in TODs and at least 4 feet wide in Secondary areas.

**[Sacramento County, California]**

**Ensuring a Continuous Network of Streets and Pathways**

A network of street rights-of-way is needed to support continuous pathways. The use of cul-de-sacs and dead-end streets can greatly increase distances that pedestrians and bicyclists must travel to reach a nearby destination. Pedestrians and bicyclists often must wind their way out of a subdivision, pass through a primary entrance, and go around the subdivision to get to a

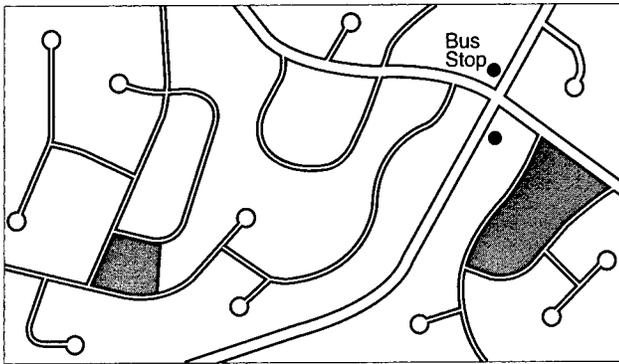


Figure 1-3 A Disconnected Streets

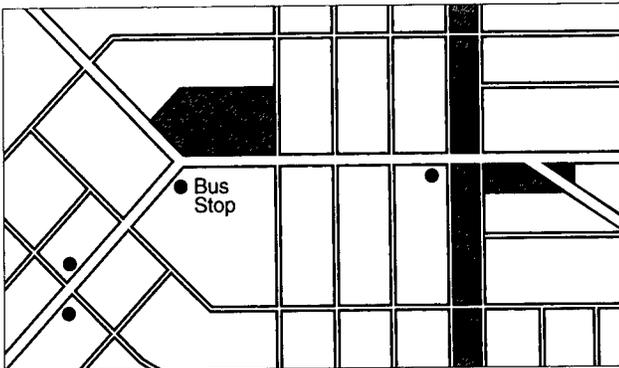


Figure 1-3 B Interconnected Streets

Recent practice has emphasized discontinuous streets, such as loops and cul-de-sacs, in order to discourage through traffic. Unfortunately, such streets also make it impossible for buses to pass through these areas. Transit service is convenient to most residents in the development.

Interconnected streets give pedestrians many alternatives walking paths and help shorten walking distances. When streets are connected in this way, auto drivers have many routes to follow as well. This disperses traffic and reduces the volume of cars on any one street in the network.

Source: Ontario Ministry of Transportation, *Transit-Supportive Land Use Planning Guidelines*, April 1992.

transit stop, park, or school, which may be just on the other side of a subdivision perimeter fence. The increased distance is often enough to discourage pedestrian travel. Bicyclists also seek direct routes to their destination.

Furthermore, when many streets do not connect, it becomes difficult to establish transit routes that pass conveniently near residences. Therefore, cul-de-sacs and dead-end streets should be avoided when promoting transit and use of alternative modes of transport are desired objectives. Where it is not possible to directly connect new streets to existing streets, accessways for pedestrians should still be provided. The following examples illustrate provisions which ensure that streets form a complete, continuous network.

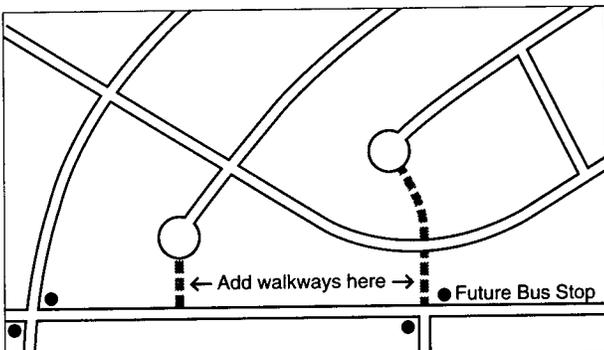


Figure 1-4. Pathways to Transit Stops

*Alternative 1:*

*Cul-de-sacs, dead end streets or alleys, and flag lots\* shall only be permitted when the following conditions are met.*

- a) *One or more of the following conditions prevent a required street connection: excess slope (20 percent or more); presence of a wetland or other body of water that cannot be bridged or crossed; existing development on adjacent property that prevents a street connection; presence of a freeway or railroad.*
- b) *A street pattern that either meets standards for connection and spacing or requires less deviation from standards is not possible.*
- c) *An accessway is provided consistent with the standards for accessways.*
- d) *Cul-de-sacs shall be as short as possible and shall not exceed 400 feet in length.*

*(\*Note: Flag lots are lots that do not front on or abut a public street that are accessed via a narrow, private right-of-way. They can result in an increased number of curb cuts.)*

*Alternative 2:*

*Cul-de-sacs shall be permitted only where there is no feasible connection with an adjacent street. If cul-de-sac streets represent more than 10 percent of the total lane miles in a development, the subdivider shall be required to demonstrate that alternative internal circulation systems that would minimize use of cul-de-sacs are infeasible.*

**[Portland Tri-Met Transit-Supportive Development, A-36, cited in Oregon Chapter of APA]**

The street shall be designed to create blocks that are generally rectilinear in shape, a modified rectilinear shape, or another distinct geometric shape. Amorphously shaped blocks are generally discouraged, except where topographic or other conditions necessitate such a configuration. To the greatest extent possible, blocks shall be designed to have a maximum length of 480 feet. Lanes (alleys) shall be permitted to bisect blocks.

[Nelessen model ordinance]

### Providing Through-Block Connections

When blocks are long (greater than 600 feet), a pedestrian will need to walk a greater distance to get to a destination on the other side of the block. Providing a short-cut route through long blocks can increase pedestrian convenience.

When necessary for public convenience or safety, the developer shall improve and dedicate to the public (pedestrian/bicycle) accessways to connect to cul-de-sac streets, to pass through oddly shaped or unusually long blocks, to provide for networks or public paths creating access to schools, parks, shopping centers, mass transportation stops, or other community services.

[Redmond, Washington]

Pedestrian-way easements [10] feet wide, through the center of blocks more than 600 feet long, may be required by the approving agency in order to provide convenient pedestrian access to transit stops, a station, to shopping, or other community facilities.

[NJ Transit]

In reviewing plans of subdivisions, ensure that a sufficient number of mid-block connections are provided to meet the transit walking distance criterion [see section on 400 meter limit]; in low-density suburbs, two collectors may be required, while one collector should be sufficient in subdivisions with higher density uses along arterials and collectors.

[Ontario Ministry of Transportation Guideline 3.3.3]

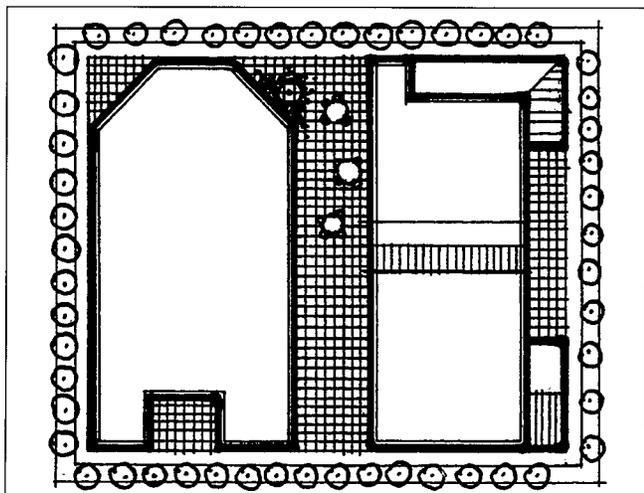


Figure 1-5. Mid-block Connections

Buildings should incorporate interior arcades, open courtyards, enclosed plazas or combinations thereof which offer mid-block pedestrian connections between (perpendicular and/or parallel) streets.

[Bellevue, Washington]

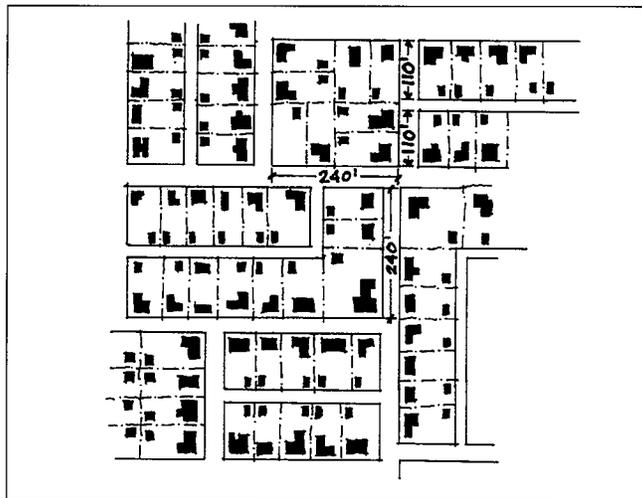


Figure 1-6. Small Block Pattern

### Overcoming Barriers to Direct, Continuous Connections

Good pedestrian access requires direct links to where pedestrians want to go. New subdivisions are frequently walled off from surrounding areas through the use of perimeter fences or walls with infrequent access breaks. These barriers block direct access to surrounding development or destination points, such as transit stops, unless access points are provided at frequent intervals. Sidewalks also often terminate when there is a major change in topography or another obstacle. The extra distance that pedestrians will need to travel to avoid such obstacles can be discouraging. While it may be expensive and environmentally damaging to extend a street through such terrain, it is more often feasible to construct narrow stairs and/or ramps.

Residential development should (shall) be designed so that pedestrian access to and through the neighborhood is not impeded. Where topographic barriers exist in the route of a public path, the developer should (shall) provide stairs and ramps where they can be provided consistent with [King County's] Sensitive Areas Ordinance requirements. Walls, fences, or other physical barriers that extend the entire length of the property lines should (shall) not be erected unless public easements are established at convenient intervals.

[King County, Washington, Soos Creek Community Plan Update and Area Zoning]

Access points at property edges and to adjacent lots shall be coordinated with existing development to provide circulation patterns between developments. Buildings, landscaping, fences, and other improvements shall be located so as not to preclude eventual site-to-site connections.

[Metro-proposed language for King County, Washington]

Stairs or ramps shall be provided where necessary to provide a direct route. Walkways without stairs shall have a maximum slope of 8 percent and a maximum cross slope of 2 percent.

[Oregon Chapter of APA]

**Allowances for Future Street Extensions**

Subdivisions and other developments are reviewed and approved incrementally. The communitywide network of streets and pathways must be considered in reviewing each development project to ensure that the systems on individual sites match up and that lot patterns and other development features do not block future street and pathway extensions. The following subdivision provisions provide opportunities for future street and pathway connections.

Where the subdivision or partition is adjacent to land likely to be divided in the future, streets, bicycle paths, and accessways shall continue through to the boundary lines of the area under the same ownership as the subdivision or partition, where the planning or public works director determines that such

continuation is necessary to provide for the orderly division of such adjacent land or the transportation and access needs of the community.

...  
Where the subdivision or partition will result in a lot or parcel one-half acre or larger in size, which, in the judgment of the planning director is likely to be further divided in the future, the planning director may require that the location of lot and parcel lines and other details of layout be such that future division may readily be made without violating the requirements of this code and without interfering with orderly extension of adjacent streets, bicycle paths, and accessways. Any restriction of buildings within future street locations shall be made a matter of record if the planning director deems it necessary for the purpose of future land division.

...  
Where the subdivision or partition includes only part of the area owned by the applicant, the planning director or public works director may require a sketch of a tentative layout of streets, bicycle paths, and accessways in the remainder of said ownership.

[Eugene, Oregon]

**Table 1-1. Sight Lighting Standards Model Language**

**12.7 Site Lighting**

- a) Site lighting shall be provided in accordance with the standards set forth in the following tables:
- b) Lighting for safety shall be provided at intersections, along walkways, at entryway, between buildings, and in parking areas;
- c) Spacing of standards shall be equal to approximately four times the height of the standard;
- d) The maximum height of standards shall not exceed the maximum building height permitted, or 25 feet, whichever is less;
- e) The height and shielding of lighting standards shall provide proper lighting without hazard to drivers or nuisance to residents, and the design of lighting standards shall be of a type appropriate to the development and the municipality;
- f) Spotlights, if used, shall be placed on standards pointing toward the building rather than on the buildings and directed outward.

PARKING LOT ILLUMINATION		
Activity Level	Lux	FootCandles
Low activity <sup>(1)</sup>	2	0.2
Medium activity <sup>(2)</sup>	6	0.6
High activity <sup>(3)</sup>	10	0.9

<sup>(1)</sup> Examples include Neighborhood shopping, industrial employee parking, church or recreational facility parking.

<sup>(2)</sup> Examples include community shopping centers, office parks, hospital parking areas, cultural civic or recreational events, and residential complex parking.

<sup>(3)</sup> Examples include major cultural or civic events, major league athletic events, regional shopping centers and fast food facilities.

PEDESTRIAN WALKWAY ILLUMINATION		
Walkway Classification	Minimum Average Horizontal Levels-Lux	Average Levels for Special Pedestrian Safety-Lux
<u>Roadside Sidewalks</u>		
Commercial areas	10	22
Intermediate areas	6	11
Residential areas	2	5
<u>Walkways Distant from Roadways</u>		
Walkways and stairways	5	5
Pedestrian tunnels	43	54

Source: Adapted from Listokin, and Walker, *The Subdivision and Site Plan Handbook*, 1989.

## IMPROVING THE PEDESTRIAN ENVIRONMENT

Creating a pleasant environment for walking or bicycling can greatly influence the number of people willing to walk or ride as an alternative to driving. People are likely to walk or ride further and more often when the streetscape offers more attractions and when they feel comfortable and secure.

### Security, Lighting, and Heightened Visibility

Lighting for parking lots and pedestrian ways shall be provided to ensure personal safety. Lighting shall be integrated into the architectural character both in terms of illumination and fixtures. Lighting shall not produce glare or negatively impact off-site uses or traffic on adjacent streets.

[Clark County, Oregon]

The major pedestrian pathways must have adequate illumination with increased illumination around building entrances and transit stops.

[Kirkland, Washington]

Where pedestrian underpasses or tunnels are used for pedestrian or bicycle pathways, they shall be generally straight and without recesses so that the far end of the tunnel is visible to the pedestrian or bicyclist. The tunnel shall be lit from natural or artificial light sources to a standard not less than four footcandles.

[Adapted from Toronto, Ontario]

Freestanding walls, fences, and hedges along public streets may be used under the following conditions:

- Solid walls, fences, and hedges four feet in height or less shall be allowed.
- Decorative walls, fences and hedges that allow visibility, such as wrought iron and split rail fences, shall be allowed throughout the Transit Overlay District and shall not exceed six feet in height.
- Barbed wire, razor wire, electric fences, and other dangerous fences are prohibited in the Transit Overlay District.
- All allowable walls, hedges, and fences between a building and public street must provide for access at least every 100 ft.

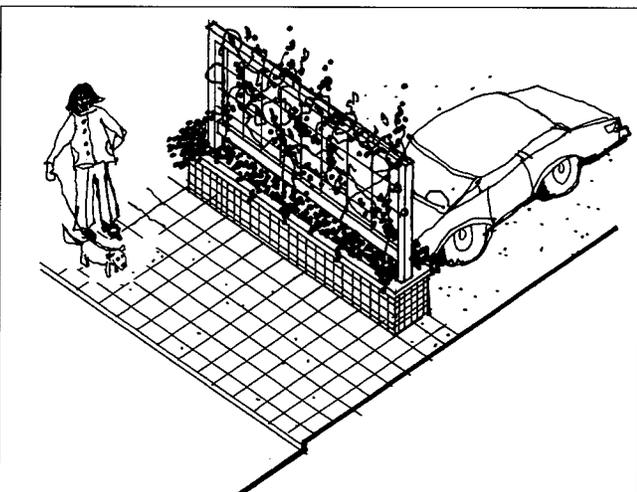


Figure 1-7. Screening to Provide Visibility and Security

- Solid walls greater than four feet in height shall be allowed only if required by the director to mitigate significant noise impacts.

[Vancouver, Washington, transit overlay district]

### Protecting the Pedestrian/Cyclist from Traffic

Pedestrian access and walkways shall meet the following minimum design standards:

- Access and walkways shall be well lit and physically separated from driveways and parking spaces by landscaping, berms, barriers, grade separations, or other means to protect pedestrians from vehicular traffic;
- A crosswalk shall be required when a walkway crosses a driveway or a paved area accessible to vehicles;
- Whenever walkways are provided, raised crosswalks (or other traffic calming measures designed to slow traffic) shall be located at all points where a walkway crosses the lane of vehicle travel.

[Metro-proposed language for King County, Washington]

Driveways crossing the Pedestrian System should (shall) be minimized and joint use of driveways encouraged to separate vehicles and pedestrians.

...

Pedestrian access from primary building to Pedestrian System should not be interrupted by vehicular circulation, parking, or other elements that would discourage pedestrian use.

Interruptions of mid-block pedestrian systems by vehicular circulation shall be minimized.

[Redmond, Washington]

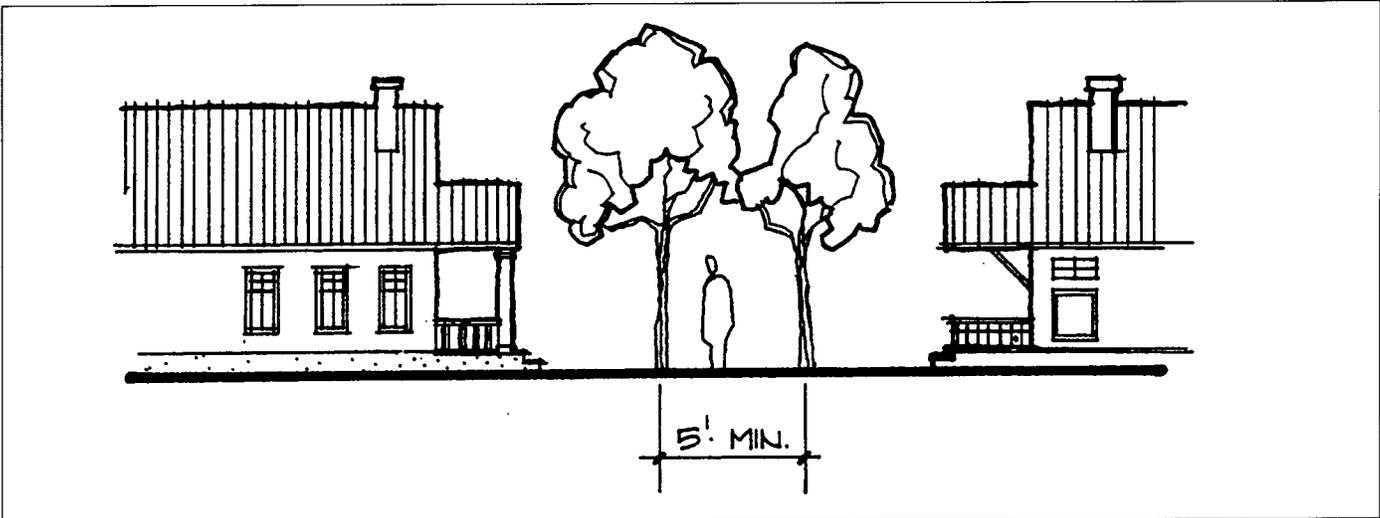
Where practicable, pedestrian walkways shall be raised above the grade of streets, drives, parking lots, and other paved areas. Where pedestrian walks cannot be raised, they shall be constructed of a material that is different from the adjacent pavement.

[NJ Transit]

### Providing Adequate Space for Pedestrians and Bicycles

Sidewalks and bike paths or lanes must be wide enough to accommodate the existing and projected volume of pedestrian and bicycle activity if they are to offer a quick and convenient means of travel. In setting standard sidewalk widths, communities should consider both the paved width and the unobstructed width available for walking. This is especially important for curbside sidewalks because obstructions (e.g., light poles, parking meters) are more likely to be located in the sidewalk. In general, a uniformly wide sidewalk is preferable to a narrow sidewalk that is widened around obstructions. Activities or conditions that impede pedestrian and bicycle travel also should be minimized.

Sidewalks must also accommodate the needs of disabled persons. In the state of Washington, a minimum 44-inch clearance is needed to provide an "accessible route of travel" for a wheelchair. If a sidewalk is less than five feet wide, passing spaces are required at no less than 200-foot intervals. In addition, excessive slopes can create problems for those with disabilities. Sidewalk slopes exceeding 8.3 percent are not considered



**Figure 1-8. Provide Adequate Space for Pedestrian Walkways**

“accessible.” Slopes greater than 5 percent require handrails.

Sidewalks shall be constructed to meet the following minimum widths:

Street Type	Residential/Industrial		Commercial/Institutional	
	Curb	Setback	Curb	Setback
Local	6 feet	5 feet	7 feet	6 feet
Collector	7 feet	6 feet	8 feet	7 feet
Arterial	7 feet	6 feet	10 feet	8 feet

Curb sidewalks shall maintain a minimum unobstructed width two feet less than the required sidewalk width. The entire required width of setback sidewalks shall be unobstructed. Curb sidewalks shall be a minimum of eight feet wide at transit stops.

A setback sidewalk shall be separated from the curb by a planting strip at least four feet in width. The planting strip may be paved in neighborhood commercial areas and shall be paved at transit stops.

[Oregon Chapter of APA]

Sidewalks shall be a minimum of four feet in width (if passing areas are provided), expanding to five feet and six feet along major pedestrian routes; sidewalks in commercial areas shall be 10 to 15 feet in width.

[Nelessen model ordinance]

Any activity or use that might obstruct or otherwise impede the normal passage of pedestrians and bicycles on sidewalks shall be prohibited. Such activities or uses shall include, but not be limited to, the following:

- a) The parking of a motor vehicle, except emergency vehicles, on or over any portion of a sidewalk
- b) The dumping, depositing, or placing [of] refuse, leaves, or snow upon a sidewalk
- c) The display of merchandise on or near a sidewalk in such a way that the merchandise or prospective buyers of it might impede or obstruct the passage of pedestrians or bicyclists

- d) The growth of trees, bushes, or other plants in such a way that any part of the plant growing on or over a sidewalk might impede or obstruct the passage of pedestrians or bicyclists or create a sight distance hazard for uses or the right-of-way.

[Washington County, Oregon]

Access shall be usable by mobility impaired persons and shall be designed and constructed to be easily located by the sight-impaired pedestrian by either grade change, texture, or other equivalent means.

[Metro-proposed language for King County, Washington]

Design grades of walkways, driveways and parking areas [shall be] generally less than 5 percent; grades of up to 10 percent are acceptable for short distances.

[Redmond, Washington]

Where feasible, designate sufficient road allowance widths along arterial and collector roads to permit sufficiently wide sidewalks to accommodate street furniture, bus shelters, and other pedestrian amenities.

[Ontario Ministry of Transportation Guideline 3.5.3]

#### Limitations on Curb Cuts

Curb-cut restrictions can reduce vehicle-pedestrian conflict points and preserve on-street parking.

Curb cuts for off-street parking facilities shall comply with the following standards:

- a) In Residential districts, the maximum width of a curb cut shall be 20 feet at the street line.
- b) In Open Space, Business and Industrial districts, the maximum width of a curb cut shall be 30 feet.

...

No more than one curb cut per lot for lots with less than 100 feet of frontage shall be allowed. A maximum of one curb cut for every 100 feet of street frontage or portion thereof shall be allowed for lots having frontage in excess of 100 feet.

[Cambridge, Massachusetts]

**Building Orientation and Setback**

The following provisions seek to minimize pedestrian travel distances and to provide visible, direct access to buildings along a street. In addition, provisions reduce building setbacks, which add to pedestrian comfort by enclosing, defining, and providing a sense of continuity to the streetscape. Buildings with display windows at the sidewalk provide added activity and interest to attract pedestrians. These provisions are usually applied in commercial districts or other pedestrian-oriented districts.

*[Primary ground floor building entrances shall have an entrance oriented to pedestrian-oriented streets, plazas, or parks. The building may also have other entrances so long as direct pedestrian access is provided from all entrances.]*

**[Vancouver, Washington]**

*Buildings. . . shall abut the streetfront sidewalk and orient the primary entrance, or entrances, toward the street.*

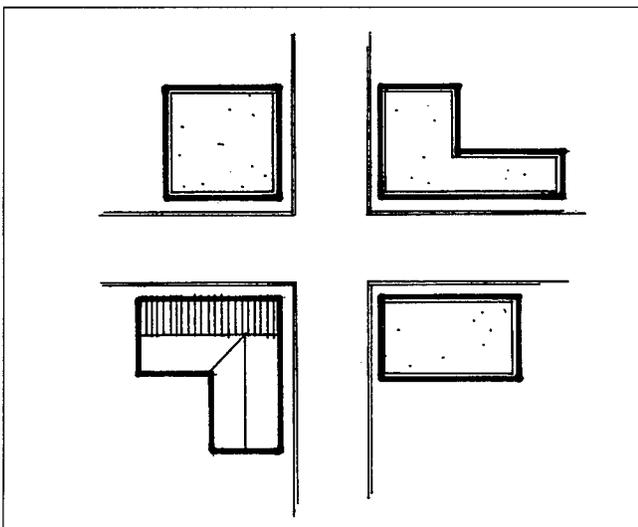
**[Redmond, Washington, pedestrian-oriented district]**

*Buildings, excluding parking structures and accessory structures, shall be located as close to the street lines of the lot as practicable while complying with the setback (yard).*

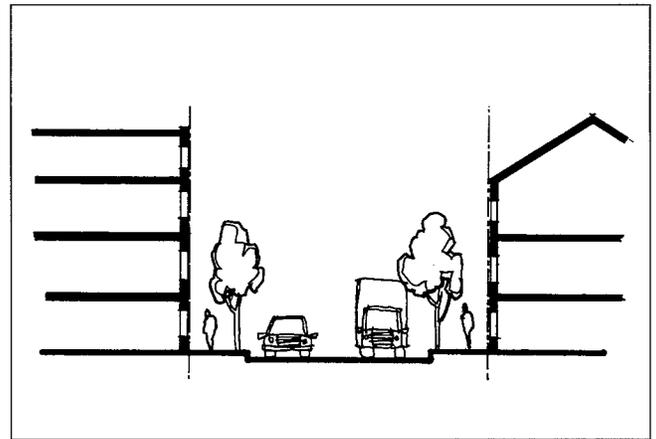
**[NJ Transit]**

*The maximum street wall setback [formed by buildings] is 10 feet. . . Setback areas (the area between the front property line and street wall) may be used for landscaping and small commercial uses designed primarily to cater to pedestrians, including, but not limited to, vendors, newsstands, flowers, and cafes. Fences, large trees and landscaping, or other features that form visual barriers or block views to street wall windows are prohibited. The street wall may be set back to retain water views and to provide transition to residential neighborhoods, to allow privacy in residential development, to meet centerline setback requirements, for building entrances, for pedestrian plazas, and to allow existing setback buildings as conforming uses. Large entryways that are integral to a building design may be set back more than 10 feet.*

**[Olympia, Washington]**



**Figure 1-9. Bringing Buildings to the Edge of the Sidewalk**



**Figure 1-10. Buildings at Streetline**

*Primary ground floor commercial building entrances must orient to plazas, parks, or pedestrian-oriented streets, not to interior blocks of parking lots. Secondary entries from the interior of a block will be allowed. Anchor retail buildings may have their entries from off-street parking lots, however, on-street entries area strongly encouraged.*

**[Sacramento County, California]**

*Building setbacks from public streets should be minimized. "Build-to" lines should be established which reflect the desired character of the area and bring buildings close to the sidewalk.*

**[Sacramento County, California]**

**Clustering Buildings and Activities for Increased Convenience**

*Buildings clustered near internal streets [should be encouraged in order] to minimize walking distances and to promote an attractive, active, and safe pedestrian-oriented streetscape within a project, [and] to accommodate bus service, carpooling, and vanpooling within a project.*

**[Montgomery County, Maryland]**

**Providing Convenience Goods and Services in Business, Office, and Industrial Parks**

Incorporating onsite retail and services into employment centers contributes to pedestrian convenience. Studies by Gary Pivo and Lawrence D. Frank (1994) indicate that onsite convenience shopping and food service can be particularly effective in reducing midday vehicle trips in suburban office parks. In addition, bicycle commuting can be made a more attractive or more viable option when facilities like showers and bicycle lockers are provided. This approach is discussed at greater length in the mixed-use section.

**Providing Weather Protection**

Automobile travel offers protection from inclement weather as well as the opportunity to sit while traveling. Pedestrian and bicycle travel involve, by their very nature, some exposure to the elements. However, simple facilities can afford basic protection from wind, snow, rain, and intense sun that can discourage pedestrians and cyclists. For example, frequent seating opportunities,

restrooms, and other facilities can be provided to make travel by bicycle or foot more comfortable. In addition to the following examples, see Appendix E for Vancouver’s “Rain Protection Combining District” requirements.

*Buildings should be designed to provide for weather and wind protection at the ground level. Buildings fronting on [a commercial district pedestrian-oriented street] should provide pedestrian weather protection by way of awnings, [or] overhangs, a minimum of 48 inches in depth. The elements should be complementary to the building’s design and the design of contiguous weather protection elements on adjoining buildings. Materials and design should engender qualities of permanence and appeal.*

**[Redmond, Washington, pedestrian-oriented district]**

*Pedestrian plazas shall be designed to allow some direct sunlight to enter the plaza. Pedestrian plaza landscaping shall be designed in a manner that does not block the entrance of direct sunlight.*

**[Olympia, Washington]**

*A building form should not be used which causes wind speeds to exceed 11 miles per hour in areas where people walk and seven miles per hour where people sit.*

**[Paraphrased from San Francisco, California]**

*Microclimatic Impacts. Applicants must provide an analysis of any proposed new construction over 50 feet tall on surrounding building, urban open spaces, and pedestrian areas to the Charlotte-Mecklenberg planning staff. The analysis should include, but is not limited to, sun studies to determine the shadow patterns that will be cast by the proposed building at 9:00 A.M., 12:00 noon, and 3:00 P.M. at the equinoxes and solstices.*

**[Charlotte-Mecklenberg, North Carolina, Uptown Mixed-Use District Ordinance]**

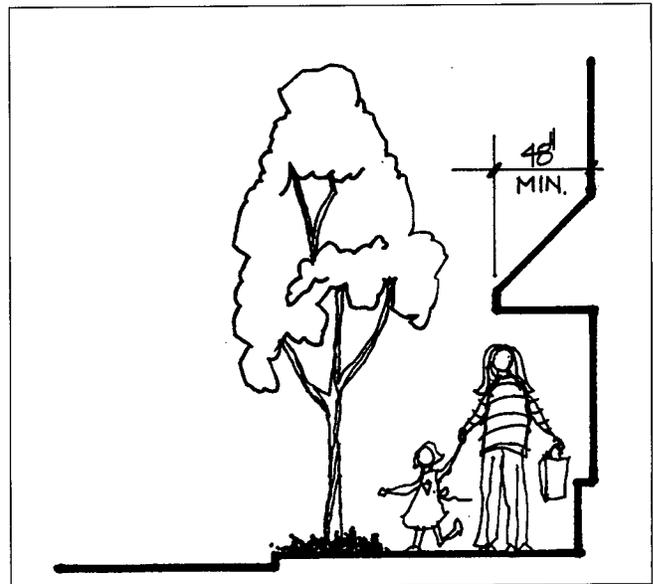
*Provide amenities to improve the micro-climate along streets. Amenities which help to protect pedestrians from wind, snow, and excessive heat or sunlight will add to pedestrian comfort.*

- *Where appropriate, canopies or arcades can be provided along the street frontage of buildings. However, they should be carefully designed not to obstruct views and access between building entrances, the sidewalk, and the street.*
- *Shade trees may be planted to provide additional climate protection and contribute to an attractive pedestrian environment.*
- *Careful landscape and building design can improve wind patterns.*

**[Ontario Ministry of Transportation Guideline 3.5.2]**

### **Providing Transit Shelters, Waiting Areas, and Seating**

Comfortable waiting areas and seating will encourage walking and transit use. In addition to the following examples, see Appendix F, Spokane’s bonus incentives for public amenities, including public seating, pedestrian shelter, and public restrooms.



**Figure 1-11. Weather Protection**

*At a minimum, TOD transit stops shall provide shelter for pedestrian, convenient passenger loading zones, and secure bike storage...Comfortable waiting areas, appropriate for year-round weather conditions, must be provided at all transit stops. Shelters should be designed with passenger safety and comfort in mind, and should be easily recognizable, yet blend with the architecture of the transit station and/or surrounding buildings.*

**[Sacramento County, California]**

*If a development is located within 250 feet of an existing or proposed transit stop, the applicant shall work with the transit agency in locating a transit stop and shelter directly adjacent or as close as possible to the main building.*

**[Clark County, Washington]**

*The location of transit stops shall be based upon the size and trip generation potential of new development along arterial streets. Transit stops will be provided for the following developments.*

- a) *Residential developments generating average daily traffic of 250 trips or greater.*
- b) *Commercial and industrial developments generating average daily traffic of 1,000 trips or greater.*
- c) *Public facilities including middle schools, high schools, and community colleges, public parks (other than neighborhood parks), libraries, post offices, police stations, and other public facilities generating 1,000 or more average daily traffic trips.*

**[Oregon Chapter of APA]**

*Seating shall be provided in all pedestrian plazas. Tops of walls and steps may be considered as seating if they conform to [previously described dimensions for public seating areas].*

**[Olympia, Washington]**

## MEASURES TO ADD INTEREST AND ATTRACTIVENESS

People will more readily choose to walk or bike if they perceive advantages that offset the comfort and convenience of an automobile. And they will travel greater distances by alternative modes when they are in an interesting environment.

### Avoiding Blank Facades

A number of communities have developed provisions to reduce the effects of lengthy, featureless facades and building walls lining pedestrian routes. Various approaches can improve building interest, including requiring street-level display windows and emphasizing building modulation (varying the setback of different sections of the building facade) to add variety. However, the most successful provisions allow the developer to choose how to create an interesting facade.

*Consistent with the purpose of this district [a downtown design overlay district directed at avoiding blank walls], in the areas so covered, all new construction and major reconstruction along certain street frontages must provide windows and entrances or other features meeting the requirements of the following section. . .to afford interest to pedestrians and to enhance the urban quality and shopping environment of downtown. Along a frontage containing a required building line, at least 75 percent of the width of any new or reconstructed first-story building wall facing a street shall be devoted to interest-creating features, pedestrian entrances, transparent show or display windows, or windows affording views into retail, office, or lobby space.*

[Vancouver, Washington]

*Windows shall be provided on the street level rather than blank walls to encourage a visual and economic link between the business and passing pedestrians. A minimum of 60 percent of ground-floor facades facing streets shall be in nonreflective, transparent glazing.*

[Redmond, Washington]

*Ground-floor street frontage of each structure shall be pedestrian-oriented and designed to accommodate pedestrian-oriented uses to a minimum depth of 50 feet from the front of the structure.*

[Santa Monica, California]

*Use similar building articulation that breaks up the building mass into modules which reflect proportions similar to the historic building. Methods used to create intervals which reflect and promote compatibility and which respect the scale of the historic building include:*

- 1) *Facade modulation—stepping back or extending forward a portion of the facade*
- 2) *Repeating the window patterns at intervals equal to the articulation interval*
- 3) *Providing a porch, patio, deck, or covered entry to the articulation interval*
- 4) *Providing a balcony or bay window for each interval*
- 5) *Changing the roofline by alternating dormers, stepped roofs, gables, or other roof elements to reinforce the modulation or articulation interval*

- 6) *Changing materials with the change in building plane*
- 7) *Providing a lighting fixture, trellis, tree, or other landscape feature with each interval*
- 8) *Using paint and material colors that blend with the historic property*
- 9) *Using landscape materials and plantings that are similar to those used on the historic property.*

[Olympia, Washington]

*Long facades should be divided into shorter segments a maximum of 40 feet and preferably 25 feet in width. In larger projects with frontages over 100 feet, modules should be separated by such techniques as a deep notch (in plan) between the modules or varying architectural elements and/or varying the color of individual modules within a harmonious palette of colors.*

[Mountain View, California]

*Street Walls. The first floors of all buildings, including structured parking, must be designed to encourage and complement pedestrian-scale activity. It is intended that this be accomplished principally by the use of windows and doors arranged so that the uses are visible from and/or accessible to the street on at least 50 percent of the length of the first-floor street frontage. . . . Where expanses of solid wall are necessary, they may not exceed 20 feet in length.*

[Charlotte-Mecklenberg, North Carolina, Uptown Mixed-Use District Ordinance]

### Providing Street Trees, Landscaping, and Open Spaces

Street trees and other forms of landscaping provide a good contrast to buildings and pavement and help soften the urban environment. They enliven streetscapes by blending natural features with built features. Street trees, when planted between sidewalks and streets, buffer pedestrians from vehicles. They also offer summer shade for pedestrians.

*Street trees shall be planted on all street frontages and within all median planting strips [as further specified in this section].*

- a) *Street trees shall be spaced no further than 30 feet on center.*
- b) *Street trees shall be planted within the public right-of-way or the front yard setback.*

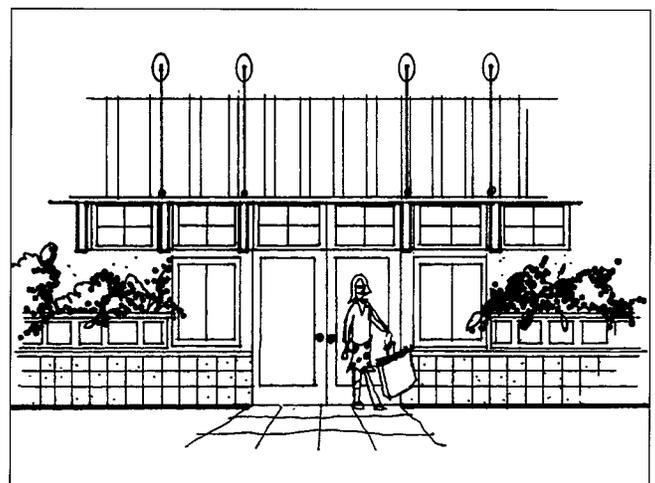
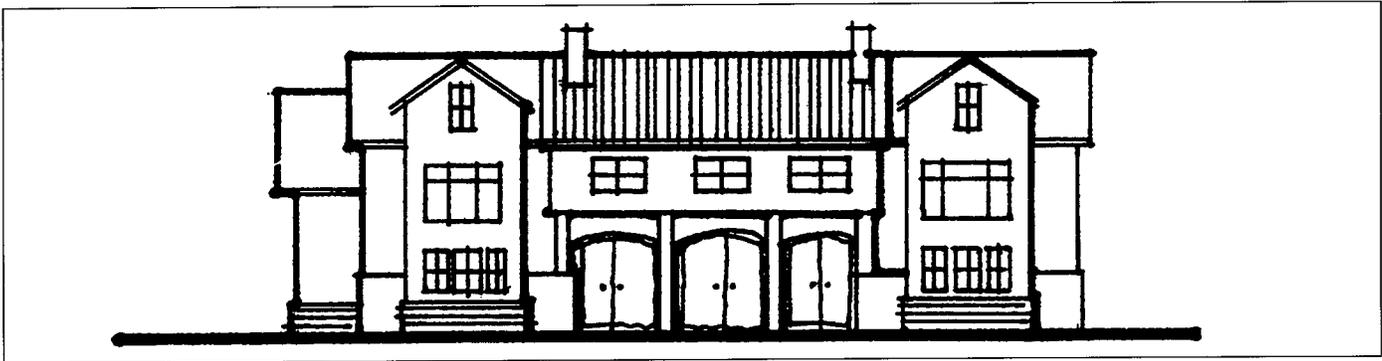


Figure 1-12. Pedestrian-oriented Facade



**Figure 1-13. Use of Articulation to Break Up Building Mass**

- c) Street trees shall be placed a minimum of two feet from the curb.
- d) At planting, street trees shall have a minimum height of six feet and a minimum diameter of two inches, measured at four feet above the ground at grade level.
- e) Street trees shall be species approved by the reviewing authority.

**[Clark County, Washington, transit overlay district]**

Where street trees are not already present at the required spacing interval, shade trees or flowering fruit trees shall be installed by the developer. Where the . . . plan has identified a specific type of tree or a specific species. . . for certain streets within the [plan] area, the type or species identified by the . . . plan shall be planted wherever additional trees are needed to meet the standards. All trees on both sides of a street within a block shall be the same species.

**[NJ Transit]**

**PROVIDING PUBLIC OPEN SPACES**

Public open spaces, such as pedestrian plazas and landscaped areas, provide pedestrians with additional points of interest along the way. When equipped with street furniture, they also offer an opportunity to rest. In addition to the following examples, several appendices provide examples of incentive and point systems to encourage the provision of open space amenities. See Appendix F for Spokane’s point system and requirements for a minimum amount of streetscape amenities.

*In the Covington Pedestrian District, public space should (shall) be provided as part of all new development in an amount that covers no less than 10 percent of the total site area. Public space includes parks, plazas, and arcades, but excludes pedestrian walkways. For properties with less than one acre of site area, a park acquisition fee may be paid in lieu of providing the minimum amount of on-site open space.*

**[King County, Washington, Soos Creek Community Plan Update and Area Zoning]**

*The Major Public Open Spaces must be designed with numerous pedestrian amenities such that these areas serve as focal points. Pedestrian amenities include elements such as seating, lighting, special paving, planting, food and flower vendors, artwork, and special recreational features. Design must be coordinated with that of the Major Pedestrian Corridors (Plan).*

**[Bellevue, Washington]**

*A minimum of 20 percent of the site shall be landscaped. Landscaping that is part of stormwater treatment facilities and pedestrian plazas may be used to satisfy the requirement. To qualify as a pedestrian plaza, the following conditions must be met:*

- a) *Minimum size: A minimum of 10 feet depth and width with a minimum size of 650 square feet.*
- b) *Paving: A minimum of 80 percent of the area shall be paved in a decorative paver or textured, colored concrete. Asphalt is prohibited as a paver in pedestrian plazas.*

**[Clark County, Washington, campus office park zone]**

*If the subject property abuts a pedestrian-oriented street or public park, the space, if any, between the sidewalk and the building must be developed consistent with the following criteria: It must:*

- a) *enhance visual and pedestrian access, including handicapped access, onto the subject property from the sidewalk;*
- b) *contain paved walking surface of either concrete or approved unit pavers;*
- c) *contain on-site or building-mounted lighting that provides adequate illumination;*
- d) *contain two linear feet of seating area or one individual seat per 65 feet of area between the sidewalk and the building; and*
- e) *contain landscaping, such as trees, shrubs, trellises, or potted plants.*

**[Kirkland, Washington]**



# Chapter 2. Parking

This chapter presents parking provisions that support a more balanced transportation system and that increase opportunities for pedestrian and transit travel. They aim to reduce traffic congestion and improve safety, air quality, and community character. These provisions continue to accommodate automobile parking needs, yet are balanced with the needs of pedestrians, bicyclists, and transit users.

Parking code provisions can dually influence transit use and other alternative modes and make use of alternative modes preferable. Expansive, poorly designed parking lots can constitute a barrier that discourages pedestrian travel and transit use. This is particularly true when lots block or fail to offer safe, comfortable, interesting, and direct routes between transit stops or public sidewalks and buildings or other destinations. Such parking, located adjacent to streets, also can detract from the attractiveness of pedestrian and bicycle routes. Revised code provisions can remedy ill-considered location and design problems that discourage pedestrian travel.

In addition, plentiful, free parking characterizes much of the development that has occurred in recent decades. The presence of such parking, coupled with the absence of facilities for other forms of transportation, provides a compelling incentive to choose the car over other alternatives. Parking management and incentives are recognized as among the most effective techniques for putting transit, vanpools, and pedestrian and bicycle travel on a more equal footing with the automobile.

## PARKING LOCATION

### Restrictions on Parking Between Buildings and the Street

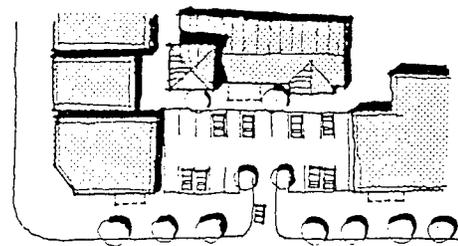
Parking between a building and a public street or sidewalk in effect gives automobile passengers priority in accessing buildings. It increases the distance transit users and pedestrians must travel from a transit stop or public sidewalk to a building entrance. Such parking areas often do not offer safe, comfortable, direct routes for pedestrian passage. Particularly when not screened or softened by landscaping, such an auto-dominated streetscape can detract from the attractiveness, interest, and the individual character of business districts and residential areas.

For these reasons, many communities are beginning to prohibit or restrict parking between primary buildings and public streets. They may also apply a combination of provisions that require buildings to be oriented toward the street, while limiting setbacks and the length of lot frontage that can be used for parking. Some communities have chosen to apply street-side parking restrictions in different types of zones to address varied needs. Some exempt single-family zones, and others apply restrictions only on arterial/collector streets or designated transit streets. Although these types of regulations can be applied in urban and suburban situations, it is particularly

**Figure 2-1. Parking Lot Guidelines**

### LOCATION OF PARKING ON COMMERCIAL STREETFRONTS

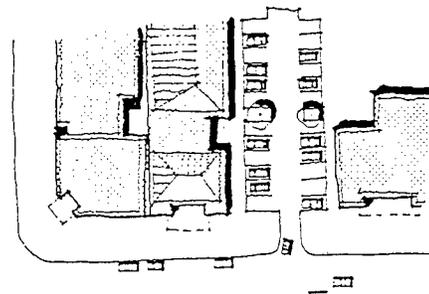
Parking on a commercial streetfront should be minimized and where possible should be located behind a building. Parking located along a commercial streetfront where pedestrian traffic is desirable lessens the attractiveness of the area to pedestrians and compromises the safety of pedestrians along the street.



Pedestrian oriented shopping street

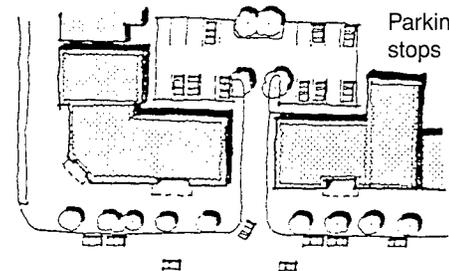
#### NOT ACCEPTABLE

Parking lots along the full length of the streetfront are generally inappropriate.



#### ACCEPTABLE

In certain situations, limited streetfront parking lots may be acceptable.



Parking behind stops

#### PREFERRED

Parking lots located behind shops and offices are preferred

Source: City of Seattle, Washington. "Design Review: Guidelines for Multifamily and Commercial Buildings." October 1993.

important to apply them in retail districts where pedestrian activity is to be encouraged. The Vancouver, Washington, provisions that allow for some limited parking in front with landscaping may be a compromise approach to reduce the visual impact of parking in some established auto-oriented commercial districts. Limits on the number and width of curb cuts that interrupt sidewalks can be a useful complementary action.

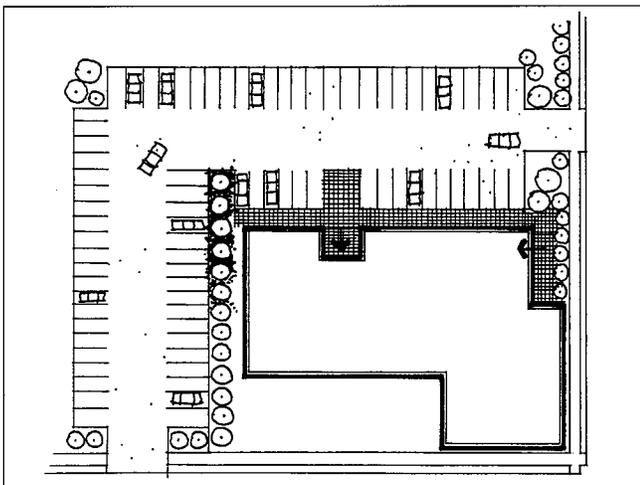
The following examples illustrate provisions that regulate or otherwise influence parking location relative to the street.

*[In specified zones: Parking is prohibited between a building and any (adjacent) street, provided that] developments on through lots or sites with three frontages may have vehicle areas between the building and one of the streets. Developments on full blocks may have vehicle areas between the building and two of the streets. However, the vehicle area must be between a local street and the building, not an arterial.*

**[Portland, Oregon]**

*No automobile parking with the exception of handicapped parking is permitted between the building and an arterial or collector unless the Planning Director determines that there is no feasible alternative means to provide the required parking.*

**[Oregon Chapter of APA]**



**Figure 2-2. Parking to Side and Rear**

*No off-street parking shall be allowed between a public street or pedestrian way and the required frontage for a building, other than in a driveway accessory to residential development. Except as otherwise provided in this section, off-street parking shall be allowed only in surface lots on the side or rear of a lot, in an underground lot or in a parking structure, provided, however, that, for commercial development (excluding the identified Downtown Center), parking shall be allowed between a public street or pedestrian way if it does not obstruct pedestrian access as defined in [Section \_\_\_] and there are unusual site characteristics making it impossible to meet the minimum parking requirement on the side or rear of a building or, no more than two rows of parking are provided.*

**[Vancouver, Washington]**

#### Parking Orientation

- A. Parking lots and structures shall be located as much as possible to the rear of buildings.
- B. Locating parking lots between the front property line and the primary building storefront/entry is specifically prohibited.
- C. Vehicular entry points to parking lots shall receive special paving accents where the drive crosses the public sidewalk.
- D. Off-street parking facilities shall be designed so that a car within a facility will not have to enter a street to move from one location to any other location within the same parking facility.

**[San Bernardino, California]**

*Location of Off-Street Parking. Surface parking lots for all developments within the Civic Neighborhood PD, except single-family detached dwellings and two-unit attached dwellings, shall comply with the following provisions:*

*Except as provided below [parking location exemptions for some sites of less than 10 acres that have convenient access to transit], auto parking lots shall be located behind or beside buildings on one or both sides. Auto parking and maneuvering areas shall not be located between a building facade with a primary entrance and an abutting primary or secondary pedestrian street. Auto parking lots and maneuvering areas located to the side of a building cannot occupy more than 50% of a sites frontage onto a primary or secondary pedestrian streets. . . . Wherever possible, auto parking lots and maneuvering areas on corner lots should not be located adjacent to intersections.*

**[Gresham, Oregon]**

#### Preferential Rideshare Parking

To provide an incentive for ridesharing, many communities have adopted requirements to designate and locate spaces for participants in rideshare programs closer to the building entry.

*New commercial and industrial developments with 20 or more employee parking spaces shall designate at least 5 percent of the employee parking spaces for carpool or vanpool parking. Employee carpool and vanpool parking shall be located closer to the building entrance or the employee entrance than other employee parking with the exception of handicap parking. The carpool/vanpool spaces shall be clearly marked "Reserved-Carpool/Vanpool Only."*

**[Eugene, Oregon]**

*Carpool Parking Incentives. The following regulations are intended to encourage the use of carpooling to increase vehicle occupancy and reduce traffic volumes and congestion.*

- (a) **Applicability.** The regulations of this Section 22-4.2 shall apply to all non-residential buildings or uses constructed after April 12, 1995, that employ one hundred (100) or more people. This shall include multi-use buildings and lots which collectively employ one-hundred (100) or more people with buildings constructed after the adoption date of this Zoning Ordinance, April 12, 1995.
- (b) **Reserved Parking Spaces.** Each use subject to the requirement of this Section 22-4.2 shall devote ten

percent (10%) of the total number of employee parking spaces for vehicles participating in a carpool program. Carpool parking spaces shall be located to provide superior convenience. The number of employee parking spaces shall be based on one parking stall for each two employees at the highest shift.

[Salt Lake City, Utah]

Government/business services and manufacturing land uses shall be required to reserve one parking space of every 20 required spaces for rideshare parking as follows: 1) The (rideshare) parking spaces shall be located closer to the primary employee entrance than any other employee parking except disabled; 2) Parking in reserved areas shall be limited to vanpools and carpools established through rideshare programs by public agencies and to vehicles meeting minimum rideshare qualifications set by the employer.

[Metro-proposed language  
for King County, Washington]

All employers required to operate high occupancy vehicles (HOV) shall mark the closest parking spaces to the building entrance "Reserved for HOV." These spaces shall not displace required handicap parking.

[Olympia, Washington]

#### **Design and Construction of Rideshare Parking**

A minimum vertical clearance of 7 feet, 3 inches shall be provided to accommodate van vehicles if designated vanpool/carpool parking spaces are located in a parking structure; and minimum turning radius of 26 feet, 4 inches with a minimum turning diameter (curb to curb) of 52 feet, 5 inches shall be provided from parking aisles to adjacent carpool/vanpool parking spaces.

[King County, Washington]

#### **Alley Parking**

Having alley access makes it easier to locate parking in the rear of a building, as in the following example.

For wholly new development[s] or any redevelopment designed to increase existing gross floor area by 50 percent or more on a lot or premises abutting an improved alley, the required off-street parking area shall be so located that the abutting alley may (shall) be utilized for vehicular access to and from said lot or premises.

[San Diego, California]

#### **REDUCTION OF PARKING SUPPLY/DEMAND**

Abundant, free parking makes it convenient for automobile owners to use their cars rather than choose transit or other alternatives. Large parking lots also consume land that could otherwise be used for building area, open space, or other productive uses. In addition, large, difficult-to-cross, parking areas often constitute barriers to convenient bicycle, pedestrian, and transit travel. They provide an unfriendly, uncomfortable environment for pedestrian and transit users, reinforcing

the desire to drive, and often detract from the attractiveness of the streetscape, further discouraging walking.

Parking reduction measures may be less effective for some uses than others. While they can be very effective when applied to employment centers, they may be less appropriate applied to retail businesses dealing in bulky, difficult-to-transport goods. Reducing vehicle parking requirements to better match real demand can be done in any community. However, reducing allowable parking significantly below demand requires regular transit service to be available. (Maximum parking allowances are discussed in a following section.) In spite of these limitations, measures that reduce the supply of free parking can be among the most effective tools for motivating a switch from single occupancy vehicle travel.

#### **Revising Existing Parking Requirements to Better Match Demand**

A number of recent studies have found that typical parking requirements by local communities greatly exceed peak parking demand on a typical day. For instance, although the typical parking requirement for office uses may be 3.5 to 4 spaces per 1,000 gross square feet of building floor area, several studies have observed average peak parking use of between 2 to 2.8 spaces per 1,000 gross square feet. Frequently, communities base parking standards on conservative national standards, even though parking demand varies depending on local conditions. cursory field studies of actual parking use have been conducted by Olympia, Washington, planners. In 1995, that city began to adjust its parking requirements downward to reflect real demand rather than to require additional parking spaces that rarely, if ever, are used.

An applicant may request a modification of the minimum number of required parking spaces by providing that parking demand can be met with a reduced parking requirement. In such cases, the director may approve a reduction of up to 50 percent of the minimum required number of spaces.

[King County, Washington]

#### **Transportation Demand Management and Parking Reduction**

Reducing the supply of parking is most workable in locations where regular transit service and pedestrian or bicycle facilities are available. The King County and Poulsbo, Washington, excerpts are examples of such reductions. In addition, parking can be reduced where aggressive transportation demand management (TDM) programs are in effect that provide incentives for transit, vanpool, or other alternatives. The Oregon excerpts provide examples from TDM programs. Measures to allow reduced parking in exchange for improved transit or pedestrian or bicycle amenities require analysis to ensure that such alternatives are viable. For instance, the city of Seattle has conducted studies that produced specific substitution rates applicable in that city. If a community does not have studies that indicate the extent

to which commuters will be willing to switch, a more gradual phasing of measures and monitoring of results may be the best strategy.

*Any existing use (within 400 feet of a transit route) may reduce the number of required parking spaces by up to 10 percent to provide a transit stop and related amenities, including a public plaza, pedestrian sitting areas, and additional landscaping (however, such landscaping shall not exceed 25 percent of the total area dedicated for transit-oriented uses).*

...  
*Required parking spaces may be reduced at a ratio of one parking space for each 100 square feet of transit amenity space provided above and beyond the minimum required by this ordinance.*

**[Oregon Chapter of APA]**

*The director may reduce the number of required off-street parking spaces when one or more scheduled transit routes provide service within 660 feet of the site. The amount of the reduction shall be based on the number of scheduled transit runs between 7:00-9:00 a.m. and 4:00-6:00 p.m. each business day up to a maximum reduction as follows: 1. Four percent for each run serving land uses in the (Government/Business Services) section and the (Manufacturing) section up to a maximum of 40 percent; and, 2. Two percent for each run serving land uses in the (Recreation/Culture) section, (General Services) section, and the (Retail/Wholesale) section up to a maximum of 20 percent.*

**[Metro-proposed language for King County, Washington]**

*With the approval of the Director, developers may receive credit in the form of a decrease in required vehicle parking. By providing at least five covered bicycle parking facilities, one vehicle parking space will be eliminated. No more than 10 percent of the required vehicle parking for that land use shall be replaced with covered parking facilities.*

**[Poulsbo, Washington]**

*Parking reduction related to trip reduction measures: [The] Zoning Administrator may reduce the parking required for a new office or office conversions and office additions, provided that the Zoning Administrator shall reduce the parking only upon a determination that one or more of the trip measures specified in [Section 6-E] of this ordinance have been included in the project and will result in an appropriate and commensurate reduction in the need for parking by those working or visiting the project. [The] Zoning Administrator shall find that the proposed level of parking reduction will not adversely affect the supply of on-street parking that abuts residentially zoned property in the immediately surrounding area. The measures shall be in addition to the trip reduction measures designed to meet the 35 percent commute trip reduction goal contained in [Section 6-E]. An approved Transportation Management Plan shall be required prior to granting of the Zoning Administrator's Special Permit for parking reduction, such that the calculations of parking supply and demand occur concurrently.*

**[Sacramento, California]**

### **Reducing Parking Area by Allocating Compact Spaces**

The total amount of area devoted to parking can be reduced if smaller parking stall dimensions are permitted for compact cars. In the parking ordinances that were reviewed for this project, allowances for compact-sized spaces ranged from 30 to 60 percent of the total required parking spaces. Communities with a higher rate of truck ownership may need to settle for lower allowances for compact spaces.

*Up to 60 percent of required parking spaces may be compact car spaces.*

**[San Diego, California]**

*Up to 50 percent of the spaces may be 15.0 feet long and designated for compact cars. Widths may be reduced by 1.0 foot.*

**[Redmond, Washington]**

*Up to 40 percent of all required and non-required vehicle parking spaces, excluding handicapped spaces, may be sized for compact cars.*

**[Sacramento, California]**

### **Reductions Permitted for Mixed-Use Development**

Mixed-use developments can reduce demand for parking on site because visitors are able combine trips when several needs can be met within the development. (See the Mixed-Use Development chapter for more information on mixed-use development provisions.) Provisions to allow incidental commercial activity within industrial developments may be particularly useful for reducing daytime trips in low-intensity suburban office or industrial developments. Unlike many other approaches, this can achieve reduced vehicle trips in locations where densities are still not high enough to support transit.

*For mixed-use development, a 25 percent reduction of required parking shall be permitted when the criteria. . .for shared parking facilities are met [see below under King County's shared parking provisions for those criteria].*

**[Metro-proposed language for King County, Washington]**

*The total parking requirements for any mixed use is calculated as follows: . . .for a mixed-use development, the total number of required spaces is 90 percent of the sum of the amount required for each separate principal use in Section 23-603, if at least one of the following criteria is met:*

- 1. The development has a site area of 50,000 square feet or more; or*
- 2. The building(s) has a gross floor area of 20,000 square feet or more; or*
- 3. The development consists of two or more lots under separate ownership.*

**[Tucson, Arizona]**

### **Shared and Combined Parking Arrangements**

Shared parking arrangements enable developers to reduce the total parking area required for individual uses. Such arrangements allows customers to visit

several businesses while parking only once. When hours of operation for several adjacent uses do not overlap, the parking requirement for the use that needs the most parking should generally suffice for all uses. Similarly, when peak hours of operation are different, significant reductions of total parking requirements should be workable. Even when hours of operation are similar, the total amount of parking needed is generally reduced when nearby uses share parking. A recorded agreement can be used to ensure that parking is available for all participating businesses or uses. San Diego uses a table to estimate the percentage of peak parking demand for different uses to calculate the total demand for any given hour and to identify the maximum amount of parking that will be needed during the course of a day in a mixed-use development.

*When two or more land uses, or uses within a building (or on the same site or adjacent to each other) have distinctly different hours of operation (e.g., office and church), such uses may qualify for a shared parking credit. Required parking shall be based on the use that demands the greatest amount of parking.*

**[Olympia, Washington]**

*Two or more uses that have similar hours of operation and combine parking facilities may qualify to decrease the number of parking stalls as follows. The Site Plan Review Committee may require a parking demand study to ensure that sufficient parking is provided. Two uses: 5 percent reduction. Three uses: 10 percent reduction. Four or more uses: 15 percent reduction.*

**[Olympia, Washington]**

*The amount of off-street parking required. . . may be reduced by an amount determined by the director when shared parking facilities for two or more uses are proposed, provided:*

- A. *The total parking area exceeds 5,000 square feet;*
- B. *The parking facilities are designed and developed as a single on-site common parking facility or a system of on-site and off-site facilities, if all facilities are connected with improved pedestrian facilities and no building is more than 800 feet from the most remote shared facility.*
- C. *The amount of the reduction shall not exceed 101 percent for each use, unless:*
  - 1. *The normal hours of operation for each use are separated by at least one hour;*
  - 2. *A parking demand study is prepared by a professional traffic engineer and submitted by the applicant, documenting that the hours of actual parking demand will not conflict and those uses will be served by adequate parking if shared parking reductions are authorized; or*
  - 3. *The director will determine the amount of reduction subject to paragraph D.*
- D. *The total number of parking spaces in the common parking facility is not less than the minimum required spaces for any single use;*
- E. *A covenant or other contract for shared parking between the cooperating property owners is approved by the director. This covenant or contract must be recorded with the King County Records and Elections Division as a deed restriction on both properties and cannot be modified or revoked without the consent of the Director; and*

- F. *If any requirements for shared parking are violated, the affected property owners must provide a remedy satisfactory to the Director or provide the full amount of required parking for each use, in accordance with the requirements of this chapter, unless a satisfactory alternative remedy is approved by the Director.*

**[Metro-proposed language for King County, Washington]**

### **On-Street Parking**

On-street parking may be able to accommodate some of the needs of specific adjoining residences or businesses. A study of on-street parking use may be needed to ensure that the on-street parking has the capacity to handle supplemental demand for off-street parking from adjacent businesses and residences. Limiting the number and frequency of curb cuts can help increase the amount of on-street parking.

*For family dwellings, mobile home dwellings, and residential care services with 10 or fewer residents, on-street parking may be counted on a space-for-space basis toward the total required amount of parking up to 50 percent. On-street parking is allowed for these Land Use Classes only if such parking is located on the same side of the street as the use and does not extend beyond the street frontage of the subject property.*

**[Tucson, Arizona (applied to residential uses)]**

*Credit for On-Street Parking. This Section 22-4.4 is intended to reduce the amount of unnecessary parking spaces and to encourage pedestrian activity as an alternative means of transportation. Credit for on-street parking shall be allowed only within the RB, R-MU, CN, CB, CSHBD, D-1, D-2, and D-3 Districts. residential business (RB); residential mixed use (R-MU); neighborhood commercial (C-N); community business (C-B); Sugar House business district (C-SHBD); central business district (D-1); downtown support district (D-2); and the warehouse/residential district (D-3).] Some or all of the off-street parking spaces required in Section 22-6, Number of Off-Street Parking Spaces Required, may be met by the provision of on-street spaces. Such credit shall require Site Plan Review Approval. Requests for on-street parking shall meet the following requirements:*

- (a) *All on-street parking facilities shall be designed in conformance with the standards established by the City Transportation Engineer;*
- (b) *Prior to approving any request for on-street parking, the Development Review Team shall determine that the proposed on-street parking will not materially adversely impact traffic movements and related public street functions; and*
- (c) *Credit for on-street parking shall be limited to the number of spaces provided along the street frontage adjacent to the use.*

**[Salt Lake City, Utah]**

### **Adding Parking Maximums to Parking Requirements**

Establishing an upper limit on the amount of off-street parking that a developer may provide is the most straightforward way of reducing the overall amount of parking. This approach will be most effective in urban areas and in suburban centers with regular transit service.

Mandatory reductions in parking supply may not work in all situations without supplemental measures to reduce negative side effects. A suburban community that chooses to “go it alone” and applies restrictive maximum standards may inadvertently sway businesses toward locating in adjacent communities that allow ample parking. Regional agreements to limit parking supply will make these approaches far more effective.

Efforts to put lids on parking may not have the intended effect where there is abundant, nearby on-street parking. Residential parking permits may be needed for on-street parking in residential areas adjacent to employment uses. Such permits have been effectively applied in some communities to ensure that employees do not respond to reduced spaces by parking on neighboring residential streets. In addition to the Salt Lake City example below, Cambridge, Massachusetts, Redmond, Washington, and Sacramento, California, have specified a minimum and maximum number of parking spaces for many uses. Salt Lake City established maximum parking requirements for retail and services uses when it adopted a zoning ordinance in April 1995. The city is also phasing in maximum parking requirements for other nonresidential uses over the next four years. The phasing begins in 1997 with a maximum ratio of four stalls for every 1,000 square feet of gross floor area and will be reduced to a maximum ratio of 2.5 stalls for every 1,000 square feet of gross floor area by 1999. Each phase of the maximum parking requirement must be approved by the the city council after its effects have been analyzed.

*Maximum parking allowed: Retail Sales and Service Uses. The maximum parking for retail sales and services uses shall not exceed four (4) parking stalls for each 1,000 square feet of gross floor area. Implementation of this maximum parking requirement shall commence two years from the adoption date of the Zoning Ordinance, April 12, 1995, and shall remain in effect permanently from that time.*

*Maximum Parking Allowed: Residential Uses. The maximum parking for residential uses shall not exceed two (2) parking stalls for each residential unit.*

**[Salt Lake City, Utah]**

See Appendix G for Redmond’s minimum and maximum off-street requirements.

### **Eliminating Minimum Parking Requirements**

Some communities have done away with minimum parking requirements in areas that are particularly well served by transit. For instance, Olympia, Washington, exempts land uses within its Downtown Business Zone from all parking requirements. Sacramento exempts its historic “Old City” from off-street parking requirements.

It may also be appropriate to remove minimum parking requirements within special transit-oriented districts and around high-volume rapid transit stations. Transit or other alternatives are assumed to meet a high percentage of the travel demand.

### **Restricting Stand-Alone (Commercial) Parking Facilities**

Some communities control the location of commercial parking lots, particularly in central areas, as in the following example.

*Any new parking facility (parking lot or structure) not intended to meet requirements of an associated building by an unrestricted and exclusive use, shall require a Special Permit. Prior to the approval of the Special Permit, the Planning Commission shall consider the potential impact that the additional parking spaces might have on commute patterns (i.e., a shift to single-occupancy vehicles).*

**[Sacramento, California]**

### **Creating a Fee-In-Lieu-of-Parking Option**

Some communities allow businesses to contribute cash in lieu of providing parking. The fee is often a set dollar amount multiplied by the number of parking spaces that would normally have been required for a given use. The local jurisdiction or a parking improvement district formed by businesses will then use the accumulated funds to construct parking structures or lots that can serve multiple businesses. This option provides added flexibility to businesses, particularly when located on expensive land in central districts. Often, parking can be provided within convenient distance at less cost per space. Parking spaces created should be located within a reasonable distance of contributing developments, ideally within site distance of the contributing development. (See Appendix H for Kirkland’s Fee-In-Lieu Regulations.)

*An in-lieu parking fee may be submitted to the city for each required parking space that is not provided on site. The in-lieu parking fee shall be determined annually by the Technical Committee based on current land and construction costs. There is hereby created a special fund within the Office of the Treasurer-Controller into which in-lieu fees shall be deposited, to be used only for the construction of public parking facilities. Priorities for construction of parking facilities shall be identified in a comprehensive parking plan and capital improvements program approved by the City Council. The plan shall take into consideration the amount of available on-street parking within an area, the need for concentration of public facilities to prevent proliferation of private parking lots alternating with buildings, and the visual and traffic impacts of parking facilities and the degree to which the parking facilities will encourage pedestrian circulation.*

*Floor Area Bonus. A floor area bonus shall be granted within the Old Town Design Area for contribution to the fund. The bonus shall be granted at a ratio of three square feet of bonus floor area for each square foot of structured parking paid for by the in-lieu fee, up to the maximum allowable floor area within the permitted building envelope. The bonus floor area shall be*

exempt from parking requirements. For example: A 1,000-square-foot building requiring two parking spaces would pay for the construction of two structured parking stalls, at 325 square feet per stall. The bonus floor area granted would be three times the two stalls (3 x 650 square feet) or 1,950 square feet of additional floor area.

[Redmond, Washington]

### Provisions to Add Flexibility

Some communities have added provisions to their maximum parking requirements to provide relief in exceptional situations. Such provisions can help make maximum parking limitations more acceptable. An example follows:

*Subject to a special permit, the maximum parking ratio for office projects may be exceeded (i.e., more parking spaces can be provided) contingent upon meeting at least one of the following criteria:*

- a. *On-site TSM (transportation system management) measures are infeasible;*
- b. *Residential neighborhoods would be impacted because no mitigation (other than additional parking) is feasible;*
- c. *Unique characteristics of the proposed use require parking greater than that which is otherwise allowed.*

[Sacramento, California]

### Redevelopment of Parking Spaces

Land in the vicinity of transit stations should be developed at the greatest intensity that will provide the most opportunity for transit ridership. Surface parking lots within transit-oriented districts, therefore, should be targeted for redevelopment as parking structures, or more preferable, as transit-supportive employment or commercial centers. The following provision promotes increasing development densities within transit-oriented districts.

*The minimum number of parking spaces required by [Section \_\_\_] may be reduced by 10 percent to allow any structure existing on January 1, 1995, to be expanded.*

[Vancouver, Washington, transit overlay district]

*Land devoted to surface parking lots should be reduced through redevelopment and construction of structured parking facilities. Surface parking lots in TODs [transit-oriented developments] should be redeveloped to more intensive uses in the future.*

[Sacramento County, California]

*Existing development may redevelop a portion of existing parking areas for transit oriented uses including bus stops and pullouts, bus shelters, park-and-ride stations, transit oriented developments and similar facilities where appropriate.*

*Any existing use may reduce the number of the required parking spaces by up to 10% to provide a transit stop and related amenities including a public plaza, pedestrian sitting areas, additional landscaping (however such landscaping shall not exceed 25% of the total area dedicated for transit oriented uses).*

*Required parking spaces may be reduced at a ratio of 1 parking space for each 100 square feet of transit amenity space provided above and beyond the minimum required by this ordinance.*

[Oregon Chapter of APA]

### PARKING LOT DESIGN

Parking lots should be designed not only to facilitate efficient vehicle circulation, but to also permit smooth pedestrian and bicycle circulation in and around the lot. Large parking lots with inadequate provisions for pedestrians can be barriers to pedestrian and bicycle circulation. Similarly, they can block direct access to transit stops. When pedestrian areas and paths through parking areas are not clearly defined, pedestrians will feel uncomfortable, at best. Accident potential is also increased if pedestrian areas are not discernible.

#### Facilitating Pedestrian Circulation Through the Parking Lot

Parking lot design should reflect the fact that once people step out of their cars, they become pedestrians. Clearly defined routes that are well-lit and buffered from vehicle areas help address these needs. Safe, comfortable, and convenient pedestrian facilities encourage walkers to visit more than one place on foot, rather than encouraging them to drive from place to place. In addition, people will walk through parking lots when they represent a shorter route to desired destinations.

#### Clearly Defined Walkways Within Parking Lots

*Marked walkways, separated from traffic lanes and vehicle overhangs, shall be provided from parking areas to the entrances of establishments.*

[Redmond, Washington]

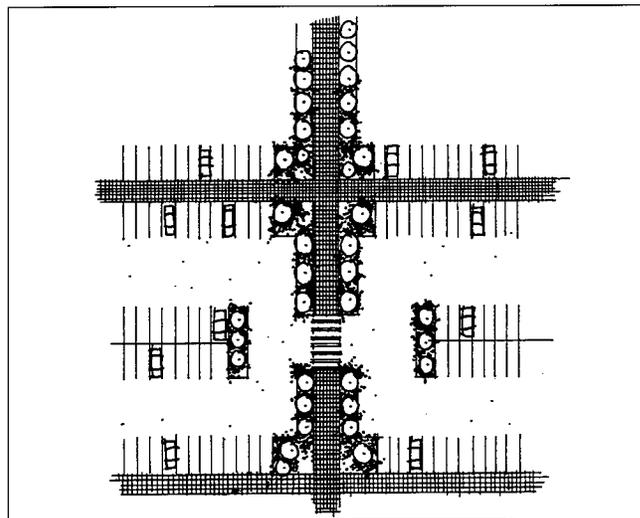


Figure 2-3. Walkways through Parking Area.

Where necessary for traffic circulation, pedestrian facilities may be broken by internal drives as long as the crossing is marked with striping or constructed with a contrasting paving material to indicate a pedestrian crossing area. On-site vehicular and pedestrian circulation shall be designed to minimize vehicular-pedestrian conflicts at driveway crossings within parking lots and at vehicle ingress/egress points.

[Eugene, Oregon]

Pedestrian walkways across parking shall be located as follows:

- a. Walkways running parallel to the parking rows shall be provided for every four rows. Rows without walkways shall be landscaped or contain barriers or other means to encourage pedestrians to use the walkways; and
- b. Walkways running perpendicular to the parking rows shall be no further than 20 parking spaces. Landscaping, barriers, or other means shall be provided between the parking rows to encourage pedestrians to use the walkways.

[Metro-proposed language for King County, Washington]

A protected, raised accessible route, walk, and circulation path a minimum of five-feet wide shall be installed through any parking lot of 50 or more spaces, designed to connect to the front building sidewalks.

- (a) All walks constructed within parking lots shall be raised to standard sidewalk height except when a walk crosses a vehicular way. All surface treatment of walks shall be firm, stable, and slip resistant.
- (b) Where an accessible route/walk crosses or adjoins a vehicular way (and where there are no curbs, railings, or other elements separating the pedestrian and vehicular areas detectable by a person who has a severe vision impairment), the walkway area shall be defined by a marked crossing having a continuous, detectable marking not less than 36 inches wide. Where walkways cross driving aisles, they shall be clearly marked with contrasting slip-resistant paving materials.

[Gresham, Oregon]

### Minimizing Obstructions

The length of a parking space may overhang a raised curb (or wheel stop) a maximum of three feet for standard spaces and two feet for compact spaces, provided that the height of the curb does not exceed six inches and the area of overhang is not part of a minimum pedestrian path or required landscape area.

[San Diego, California]

The clear width of a walkway that is adjacent to overhanging parked cars shall be 4 feet.

[Poulsbo, Washington]

### Lighting and Safety

Parking lots shall have lighting capable of providing adequate illumination for security and safety. The minimum requirement is one footcandle maintained across the surface of the parking lot. Lighting standards shall be in scale with the height and use of the structure. Any illumination, including security lighting, shall be directed away from adjoining properties and public rights-of-way.

[Poulsbo, Washington]

All walkways shall be lit with pedestrian-scale lighting.

[Eugene, Oregon]

The grade and design of any driveway providing access to an off-street parking facility shall permit a clear view to the driver of any car exiting from the facility of traffic on the street and of pedestrians.

[Cambridge, Massachusetts]

### DESIGN MEASURES TO MAKE PARKING LESS VISIBLE AND MORE PEDESTRIAN FRIENDLY

Parking lots can be configured and designed in a manner that reduces the visibility of automobiles and allows features of greater pedestrian interest to dominate the streetscape. When pedestrian or bicycle routes pass expanses of asphalt filled with cars, all reflecting heat and sunlight, the experience of walking or riding is diminished. The following examples illustrate approaches to reduce the visual impact of automobiles.

#### Reducing Parking Lot Size

Very large parking lots are difficult to screen. The useful guidebook, *Creating Transportation Choices Through Zoning: A Guide for Snohomish County Communities* (Sno-Tran) recommends that parking areas be broken into blocks no larger than 300 feet on each side (two acres or less) in commercial areas, no larger than 200 feet on each side in transit-oriented districts, and small pocket lots for 30 or fewer cars in high-density residential areas. Some other communities restrict parking area size even further. Sacramento County, California's design guidelines for transit-oriented developments limit the size of all surface lots to 2.5 acres. The guidelines state that "large parking lots detract from pedestrian emphasis and dedicate valuable land close to the transit system to non-rider-generating uses."

All surface parking areas of 50 or more spaces (less than one-half acre) shall be divided by landscaping and/or walkways at least 10 feet in width, or by a building or group of buildings.

[Vancouver, Washington, transit overlay district]

The size of any single surface parking lot shall be limited to 2.5 acres, unless divided by a street or building.

[Sacramento County, California]

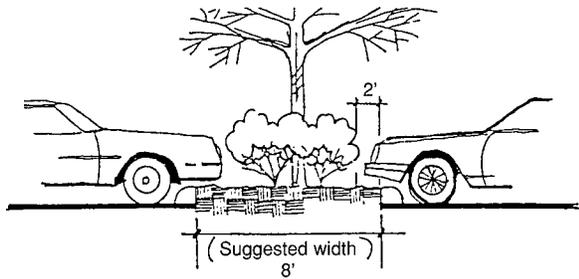
#### Requiring Interior Landscaping

Parking lot landscaping can break up large expanses of parking area and soften the appearance of paved surfaces. In addition, it can provide shade for pedestrians and vehicles.

All surface parking areas with more than 10 spaces must provide interior landscaping complying with one or a mix of both the standards stated below.

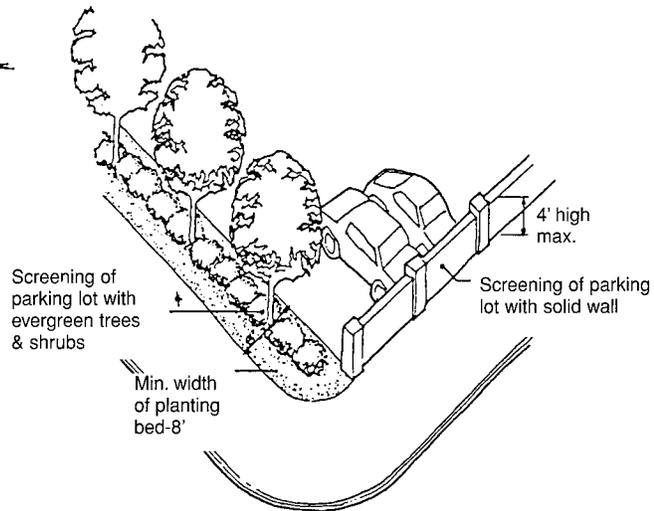
- a) Option 1. Interior landscaping must be provided at the rate of 20 square feet per stall. At least one tree must be planted for every 200 square feet of landscaped area. Groundcover plants must completely cover the

**Figure 2-4. A Guide for Parking Lot Screening**



(Left) It is necessary to accommodate the vehicle overhang when designing landscaped areas in parking lots. Plants are often damaged if a landscape strip is not wide enough to provide for both the plants and the vehicle overhang.

(Right) When the storage/service areas are located adjacent to a street or sidewalk, additional design methods must be incorporated in order to provide, an effective screen. The use of trees and evergreen shrubs in combination with an earth berm is a suitable design solution in this situation. The use of a variety of plant materials can filter the negative view from the adjacent sidewalk, street, and buildings. The use of a solid wall or fence is also an acceptable solution.



Source: Charlotte-Mecklenburg County, North Carolina, "Uptown Mixed-Use District Ordinance and Urban Design Guidelines," April 1987.

- b) *Option 2. One tree must be provided for every four parking spaces. If surrounded by cement, the tree planting must have a minimum dimension of four feet. If surrounded by asphalt, the tree planting must have a minimum dimension of three feet.*

[Portland, Oregon]

[At]-grade, open parking facilities which contain five or more parking spaces shall be landscaped in accordance with the following requirements.

- a) *At least five percent of the interior area of the parking facility shall be landscaped. This does not include the perimeter planting provided for beautification or to satisfy screening requirements.*
- b) *Each planting area shall be at least 25 square feet in area and have no dimension less than five feet.*
- c) *Each planting area shall contain at least one tree and the facility as a whole shall contain at least one tree for every 10 parking spaces.*
- d) *Trees used to satisfy parking lot landscaping requirements shall be a minimum of three-inch caliper at planting and shall be suitable for location in parking lots. . . .*
- e) *Existing trees shall be preserved wherever possible.*
- f) *Existing and new trees shall be protected by bollards, high curbs, or other barriers sufficient to minimize damage.*
- g) *Extensive unbroken pavement areas in large at-grade open parking facilities shall not be permitted. In parking lots containing 25 or more spaces, a row shall contain no more than 15 contiguous parking spaces without a densely planted landscaped buffer of at least the dimensions of one space.*

[Cambridge, Massachusetts]

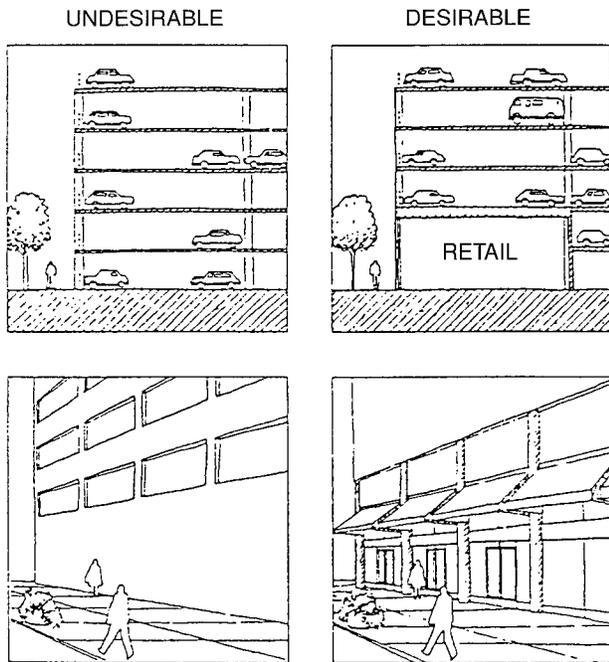
### Requiring Perimeter Landscaping and Screening

Many communities require landscaping around the perimeter of parking lots, particularly where they abut street rights-of-way or residential properties. Particularly in the Northwest, landscaping can be an effective way to screen parking and paved surfaces from view and to soften the appearance of parking areas. Although many communities have some type of landscape screening provision, they may be unclear about continued maintenance or seasonal variations in landscaping. To be effective, landscaping provisions should be specific about the results to be achieved (e.g., "a continuous, unbroken, year-round visual screen within three years of planting"). Many ordinances specify minimum size and spacing of trees and plants to ensure their survivability and effectiveness for screening purposes.

Some communities allow alternatives to landscaping, such as walls or opaque fences. Although walls and fences may effectively screen parking, they may also be unattractive and lack pedestrian interest unless combined with landscaping, murals, or other design provisions.

- 1) *Parking areas abutting a public right-of-way, except alleys and accessways, shall provide a planting strip between the right-of-way and the parking areas as follows:*
  - a) *Within a Transit Oriented Development district a strip not less than five feet in width shall be provided;*
  - b) *In all other areas, a strip not less than seven feet in width shall be provided. The planting strip may be pierced by pedestrian and vehicular accessways. Planting strips along a public right-of-way shall be planted with large-scale, high canopy, horizontally branching tree species, and a sight-obscuring evergreen hedge.*

**Figure 2-5. Guidelines for Parking Structures**



Source: Glendale, California, Redevelopment Agency, "Urban Design Guidelines."

The ground floors of buildings should have the most active uses. The ground level is where people are walking and driving, and where people expect to find the goods and services they need. If the street frontages are active, then the city is vibrant. Conversely, blank facades, solid walls, and nonactive uses at grade level produce dull and uninteresting places.

Not every street can be lined with shops but the major streets should have a preponderance of retail activity. Secondary and minor streets may have retail activities only at the corners or occasionally at important places in the middle of a block.

- 2) Visual breaks, no more than five feet in length, shall be provided every 20 feet within landscaped planting strips abutting public rights-of-way. (Note: The breaks allow visual access for security of parking lot users.)
- 3) Shrubs, when used as parking perimeter screens, shall be planted in minimum three-gallon container sizes, or larger, as necessary, to achieve the desired screening height of 30 inches within two years after planting.
- 4) Parking area screening requirements may be achieved through a combination of change of grade and use of plant materials. Use of berms. . . (is) acceptable. . . Slopes of landscaped berms shall not exceed 1:4 for lawn areas, or 1:2 for berms planted with ground covers and shrubs.

[Eugene, Oregon]

- 1) Along the perimeter of the parking area, a planting strip, not less than seven feet in width, shall be provided between the property line and the parking area. The planting strip may be pierced by pedestrian and vehicular accessways. On parcels 20,000 square feet or larger within a Transit Oriented Development district. . . , parking lots abutting an interior lot line, other than an alley, shall provide a planting strip, not less than four feet wide, between the property line and the parking area. Parcels less than 20,000 square feet within the Transit Oriented Development district will not be required to provide an interior planting strip between the property line and the parking area. (The perimeter parking requirements in TOD districts have been eased consistent with the zone purpose to allow more intensive development, supportive of transit).
- 2) Parking areas adjacent to property zoned for nonresidential development shall provide perimeter area landscaping consisting of large-scale, high-canopied,

- horizontally branching trees and shrubs.
- 3) For parking areas adjacent to property zoned for residential development, interior yards (planting strips) adjacent to the residential property shall be planted with a buffer screen of trees, shrubs capable of achieving a height of eight feet within five years, and living groundcover.

[Eugene, Oregon]

A minimum of 15% of the net area of all surface parking areas shall be landscaped as follows:

- A. Where parking areas adjoin a public right-of-way, a landscaped planting strip equal to the required yard setback shall be established and continuously maintained between the public right-of-way and parking area. Any planting, sign, or any other structure within safety sight-distance of a driveway shall not exceed 30 inches in height.

[San Bernardino, California]

### Parking Structures

Although vehicles in parking structures are less visible from the street, the structures themselves are often large and lacking in pedestrian interest. Design and architectural review requirements can help improve the appearance of parking structures.

Parking structures shall be architecturally integrated or designed with an architectural theme similar to the main building. The upper floor of parking facilities shall be landscaped in accordance with the citywide landscape standards for vehicular use areas, or covered with architectural trellis work over 30 percent of the deck area, or treated with a combination of architectural/landscape elements to achieve a screening effect

comparable to the options listed above. The perimeter of each parking garage floor above street level shall have an opaque screen or other screening mechanism to shield automobiles from public view that is at least three feet high measured from the finished floor. An architectural treatment, such as a finished soffit, shall be provided to shield any unfinished structural elements (including electrical elements, exposed steel beams, and fireproofing material) or mechanical appurtenances from a viewing position, at grade, from the opposite side of the street. Lights visible from the exterior of the structure shall be covered or screened with a diffusing lens and oriented to minimize the visual impact from the opposite side of the street.

[San Diego, California]

Retail uses shall be incorporated in the ground floor of parking structures adjacent to streets within the Downtown Blank Wall Combining District. This subsection shall not prohibit subterranean parking areas. Parking structures adjacent to streets not within the Downtown Blank Wall Combining District are encouraged to incorporate retail uses in the ground floor.

[Vancouver, Washington]

Structured parking facilities must be designed so that the only openings at the street level are those to accommodate vehicle entrances and pedestrian access to the structure. The remainder of the street-level frontage must be either occupied retail space or an architecturally articulated facade designed to screen the parking areas of the structure to encourage pedestrian-scale activity and to provide for urban open space.

[Charlotte-Mecklenberg, North Carolina, Uptown Mixed-Use District Ordinance]

## BICYCLE PARKING

Bicycles offer a nonpolluting, energy efficient alternative to automobile travel. Cities like Davis, California, where almost a quarter of the work force commutes by bicycle, have demonstrated that the potential of bicycle travel should not be discounted. Recent surveys indicate that lack of facilities is a major reason why people do not commute by bicycle. As an example, a 1990 Harris Poll conducted for *Bicycling* magazine found that

43.5 percent of people who had ridden a bicycle during the previous year but who had not commuted by bicycle during the previous month said that they would sometimes bicycle to work if there was secure bicycle storage and showers.

### Minimum Required Bicycle Parking

Increasingly, communities are beginning to require a minimum amount of bicycle parking in addition to automobile parking. A few communities specify the number of bicycle parking spaces that are required for each type of land use. In some cases, these requirements are integrated into a table that also specifies required vehicle spaces. Eugene, Oregon, requires a similar level of bicycle parking to what is recommended by the League of American Wheelmen for cities with a five percent or

greater bicycle commuter rate. A proportionately smaller amount of parking may be appropriate for a community that aspires to a lower level of bicycle travel. Notice also that Eugene separates its requirements into those for short-versus long-term parking. Short-term parking is intended to serve visitors and customers. As a result, it should be visible and particularly convenient to building entrances. Long-term parking is directed at residents, students, employees, and others who will park for more than several hours. For long-term parking, greater attention should be given to security and weather protection.

Some communities have taken a very simple approach of tying required bicycle parking to required automobile parking. The number of required bicycle spaces is expressed as a percentage of the required vehicle spaces.

5 percent of auto spaces

[Austin, Texas; Salem, Oregon]

10 percent of auto spaces

[Boulder, Colorado; Madison, Wisconsin]

20 percent of auto spaces

[Deschutes County, Oregon; Ashland, Oregon]

A number of communities also have created tables of requirements for different types of uses tied to the amount of auto parking. See Appendix I for the example of the Portland, Oregon, minimum bicycle parking percentages. Although this approach can be used to achieve the provision of bicycle parking in proportion to current bicycle commuter rates, there is no real relationship between auto and bicycle parking. Especially when the goal is to increase bicycle travel relative to vehicle travel, this may not be the best strategy for the long term. If a simpler approach is desired, it will probably be better to specify requirements for a much shorter list of general categories rather than rely on percentage requirements.

Although bicycle parking requirements should be useful in any community, the amount of required employee bicycle parking that is appropriate will vary depending on the percentage of people who commute by bicycle and the potential for increasing bicycle commute rates. The amount of visitor or customer parking will, of course, vary with the type of use as indicated in the above standards.

### Location of Bicycle Parking

As noted above, convenient, secure bicycle parking is important in encouraging bicycle use for transportation. Several examples of bicycle rack requirements follow.

- 1) *Required bicycle parking must be located within 50 feet of an entrance to the building. With the permission of the Office of Transportation, bicycle parking may be located in the public right-of-way.*
- 2) *Bicycle parking may be provided within a building, but the location must be easily accessible for bicycles.*

...

Long-term bicycle parking shall be provided in a well-lighted, secure location within a convenient distance of a primary employee entrance. A secure location is defined as one in which the bicycle is clearly visible from employee work areas, or in which the bicycle parking is provided within a lockable room, a lockable bicycle enclosure, or a bicycle locker. Bicycle parking provided in outdoor locations shall not be farther than the closest employee auto parking space (excluding disabled parking).

Short-term bicycle parking shall be provided within a convenient distance of, and clearly visible from the primary entrance to the building as determined by the city. But it shall be no further than the closest auto parking space (except disabled parking).

[Eugene, Oregon]

If the bicycle parking is not visible from the street, a sign must be posted indicating the location of the parking facilities.

[Portland, Oregon]

Bicycle racks and lockers shall be located in convenient, visible, well-lit areas, should not interfere with pedestrian traffic, and should be protected from potential damage by motor vehicles. They may be located within the public right-of-way with the approval of the City Engineer.

[San Diego, California]

### Bicycle Parking Design Standards

Design features of parking facilities, including provisions for weather protection, and techniques to secure the bicycle to a rack, are important factors in encouraging bicycle use.

Bicycle parking facilities shall be protected from the weather by providing indoor facilities, overhead protection, or through other means judged sufficient by the director.

[Metro-proposed language for King County, Washington]

If motor vehicle parking is covered, required bicycle parking must also be covered. If 10 or more bicycle spaces are required, then at least 50 percent of the bicycle spaces must be covered.

[Portland, Oregon]

Required long-term bicycle parking shall be sheltered from precipitation. Shelters for short-term parking shall be provided in the following amounts.

5 or fewer:	No shelter required
6 to 10:	100 percent of spaces sheltered
11 to 29:	50 percent of spaces sheltered
30 or more:	25 percent of spaces sheltered

[Eugene, Oregon]

Bicycle racks shall allow the locking of both wheels and the frame without the use of chains or cables. A bicycle rack is not required for a dwelling unit with a garage accessible only by that dwelling unit.

[San Diego, California]

Bicycle parking spaces shall be at least six feet long and two feet wide with an overhead clearance of at least seven feet, and with a five-foot access aisle.

[Eugene, Oregon]

### Provisions for Flexibility

The following examples illustrate measures that allow a community to adjust bicycle parking requirements to differing circumstances:

- a) The director may reduce bike rack parking facilities for patrons when it is demonstrated that bicycle activity will not occur at that location.
- b) The director may require additional spaces when it is determined that the use or its location will generate a high volume of bicycle activity. Such a determination will include but not be limited to the following uses:
  - 1) Park/playfield
  - 2) Marina
  - 3) Library/museum/arboretum
  - 4) Elementary school
  - 5) Sports club, or
  - 6) Retail business (when located along a developed bicycle trail or designated bicycle route).

[Metro-proposed language for King County, Washington]

# Chapter 3. Mixed-Use Development

When a variety of land uses are located near one another, transit use, walking, and bicycling become a practical means of travel. The term “mixed-use development” may bring to mind the image of an apartment located above a retail business. While this may be a workable arrangement in certain settings, mixed-use developments need not be limited to a “vertical” arrangement. Mixing of uses on a single site or within the same district can also stimulate pedestrian activity and transit use. A Guide to Land Use and Public Transportation—Vol. II: Applying the Concepts (Sno-Tran) defines three basic criteria to qualify as transit-supportive mixed-use development:

- Land uses must be compatible and should mutually support each other.
- The varied land uses must be within convenient walking distance of each other (generally within one-quarter mile).
- There must be safe, direct, convenient connections between the varied uses.

The key concept in mixed-use development is to create communities where daily activities are integrated rather than separated. As a result, communitywide planning rather than site-by-site planning is critical.

Mixed-use development can add variety and vitality to an area. Single-purpose residential or commercial districts are often devoid of activity at certain times of the day, whereas people are present in mixed-use areas throughout the day. As a result of the continuous activity, mixed-use areas present less opportunity for crime. But for mixed use to be successful, there must be a mutually supportive level of commercial development and residential development.

Because mixed-use development can address a variety of objectives, it is important for communities to be clear about what their objectives are in using it. For example, some communities have found mixed-use zoning helpful in revitalizing inner-city areas or to preserve historic structures while encouraging viable economic uses. Communities should tailor mixed-use provisions to best serve their own purposes and unique circumstances.

Most communities have a number of different settings where mixed-use development would be beneficial. For example, a set of zone districts allowing various mixes of uses, rather than a single mixed-use zone to cover all circumstances, may be appropriate.

This chapter will emphasize the settings in which mixed-use development can succeed and the purposes that provisions can address.

## LOCATIONS WHERE MIXED USE CAN SUCCEED

There are examples of successful mixed-use developments in urban and suburban locations and in newly developing areas and established communities. Some of these developments include a wide range of uses while others have only a few complementary uses. Others have a predominant anchor and several limited, accessory uses.

In recent decades, commercial areas in cities have become larger and more auto dependent. This has pushed most residences further away from retail stores and services. As highways and streets reach capacity and automobile travel becomes less convenient, a return to earlier commercial centers models, with more of a mix in land uses and better access to and from residential areas has reemerged as a planning goal.

Large commercial centers can contribute to a quality living environment when they contain a mix of shopping, employment, civic, cultural, and entertainment events, and facilities, parks, and convenient transportation options. Small commercial centers within walking distance

of residential areas can be designed and located to provide convenience goods and services to neighborhood residents. While some neighborhood commercial centers may be able to accommodate housing above shops, their key value is to meet the needs of nearby residents. If the centers become too large to traverse from home to the far end of the center by foot, much of this value is lost.

A study of mixed-use development for the city of Seattle by a consulting firm indicated that mixed-use projects are most likely to succeed where commercial uses are clustered in compact areas surrounded by reasonably dense residential areas. The study concluded that requirements for mixed-use development, and even requirements for ground-floor retail, can be successful when applied in the cores of existing commercial centers. For areas outside commercial cores, the study recommended phasing in or providing incentives for mixed uses.

*The Neighborhood Commercial 1 (CN1) zone is intended for small sites in or near dense residential neighborhoods. The*

<p style="text-align: center;"><b>A Checklist for Mixed-Use Planning</b></p> <ul style="list-style-type: none"><li><input type="checkbox"/> Are the uses complementary?</li><li><input type="checkbox"/> Are the uses linked by sidewalks or paved paths?</li><li><input type="checkbox"/> Are they within convenient walking distance of each other?</li><li><input type="checkbox"/> Are the walking routes short and direct?</li><li><input type="checkbox"/> Do the buildings fit with and complement each other?</li><li><input type="checkbox"/> Do the uses create activity at different times of day?</li><li><input type="checkbox"/> Is parking kept out of the pedestrian's path of travel?</li><li><input type="checkbox"/> Do they support one another economically?</li></ul>
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zone encourages the provision of small-scale retail and service uses for nearby residential areas. Some uses that are not retail or service in nature are also allowed so that a variety of uses may locate in existing buildings. Uses are restricted in size to promote a local orientation and to limit adverse impacts on nearby residential areas. Development is intended to be pedestrian-oriented and compatible with the scale of surrounding residential areas. Parking areas are restricted, since their appearance is generally out of character with the surrounding residential development and the desired orientation of the uses.

[Portland, Oregon]

Small business limitation. . . . Each individual business is limited in size to 5,000 square feet of total floor area, exclusive of parking area. Uses are limited in size in order to limit their potential impacts on residential uses and to promote a relatively local market area.

[Portland, Oregon (applied in neighborhood commercial and mixed commercial/residential district)]

This district provides for small-scale commercial uses within walking distance for the frequent needs of surrounding residents. These areas are scattered throughout the city and are located adjacent to residential neighborhoods on arterial and collector streets, between .5 and 1.5 miles apart. These areas are generally no more than two acres in size. . . and should generate minimal traffic. Parking areas are restricted in this zone in order to limit the impact on the neighborhood. Residential uses are encouraged above commercial uses.

[Vancouver, Washington, neighborhood commercial district]

### Mixing Uses in Central Business Districts

Central business districts (CBDs) ideally should be the hub of all uses and activities in a community. CBDs have a critical mass of people and activity present to make travel on foot and by transit more efficient than by automobile. Downtowns can also offer quality living and working environments if they contain attractive development, pedestrian facilities, landscaped areas, plazas, parks, and other amenities that can attract residents and hold businesses. The following are examples of CBD provisions and purpose statements.

To preserve the existing central business district of the city and provide for its expansion. Because of the intensive retail orientation, auto service stations, outdoor sales yards, and drive-in businesses are discouraged from locating in this district. The intent and objective of this classification and its application is to set apart that portion of the city which forms the center for financial, commercial, governmental, professional, and cultural activities, all of which have common or similar performance standards in that they represent types of enterprises involving the

rendering of services, both professional or to the person, or on-premises retail activities. This zone encourages leisure shopping and provides amenities conducive to attracting pedestrian shoppers.

[Burlington, Washington]

Downtown is the financial and business hub of the community. It is to be developed as an aesthetically attractive area of intense use. Toward this end, the city shall encourage the development of regional retail shopping facilities and major mixed-office complexes along with specialty retail, business support services, urban residential, hotel, and institutional uses. Certain areas of downtown are to be more intensely developed in order to facilitate pedestrian circulation. Development must enhance people orientation and provide for the needs, activities, and interests of people. The city will encourage land uses that emphasize variety, mixed uses, and unity of form within buildings or complexes. Specific Land Use Districts have been established within the Downtown District to permit variation in use and development standards in order to implement the objectives of the Downtown Subarea Plan.

[Bellevue, Washington]

The Business II District is a medium-intensity commercial district designed to allow those normal commercial uses that are consistent with a pedestrian-oriented business area. The district is intended for the established downtown commercial areas of the town. . . and for adjacent areas for growth within walking distance. In creating regulations for the Business II District, consideration has been given to the aesthetics of the town and the riverine area, which are important to residents and businesses alike and to the need to promote pedestrian circulation, while recognizing the need to provide for adequate fire protection and emergency vehicle access. Parking requirements are created to acknowledge that the downtown area is an area of shared parking and walking amongst stores, with space for off-street parking areas adjacent to most

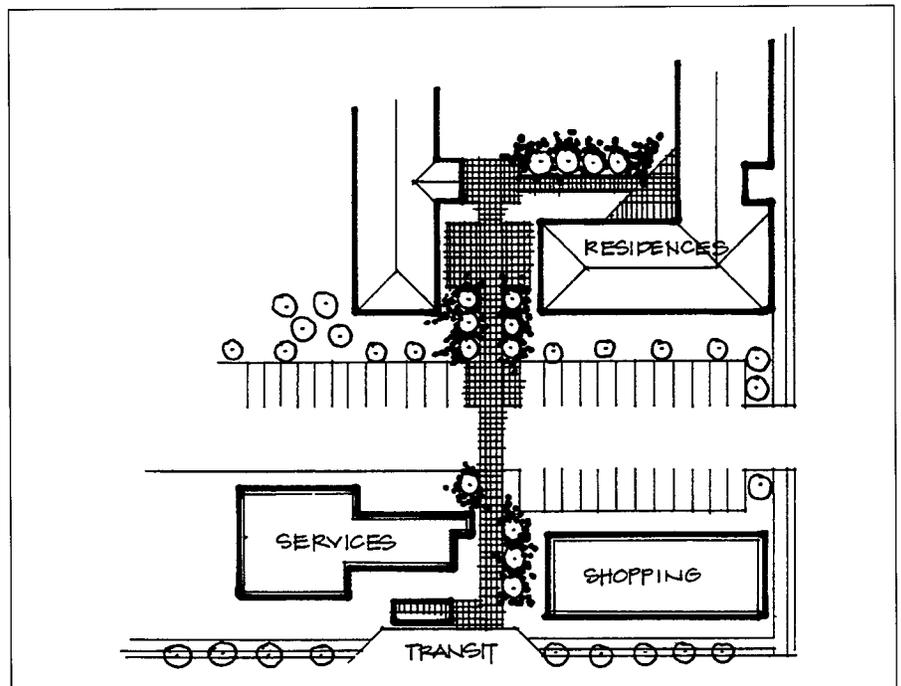


Figure 3-1. Neighborhood Commercial District

commercial uses limited, while recognizing the great need to provide more and better parking facilities in the downtown area for residents and tourists alike. Encouragement should be given to orientation of businesses toward the river, including creation of a pedestrian pathway or trail along the riverfront area.

**[Winthrop, Washington]**

### Other Commercial Districts

Other commercial districts with mixed-use potential fall in between the neighborhood and CBD commercial district scale. In Portland, commercial zoning districts are tailored for a variety of situations. Community commercial districts offer perhaps the greatest potential for a variety of housing types than do neighborhood districts and offer an in-between level of commercial service.

- A) *The purpose of the community business zone (CB) is to provide convenience and comparison retail and personal services for local service areas that exceed the daily convenience needs of adjacent neighborhoods but that cannot be served conveniently by larger activity centers, and to provide retail and personal services in locations within activity centers that are not appropriate for extensive outdoor storage or auto-related and industrial uses. These purposes are accomplished by:*
- 1) *providing for limited, small-scale offices as well as a wider range of the retail, professional, governmental, and personal services than are found in neighborhood business areas;*
  - 2) *allowing for mixed-use (housing and retail/service) developments; and*
  - 3) *excluding commercial uses with extensive outdoor storage or auto-related and industrial uses.*

**[Metro-proposed language for King County, Washington]**

*This district provides for uses in close proximity of the several surrounding neighborhoods that they typically serve. These areas are found dispersed throughout the city along collector and arterial roads and intersections, and are generally no more than 10 acres in size. This district requires careful design consideration in terms of building design, landscaping, and access in order for these uses to be compatible with surrounding residential neighborhoods and [to ensure that they are] transit and pedestrian friendly.*

**[Vancouver, Washington community commercial district]**

Office zoning districts can provide opportunities for mixed-use development. Allowing limited retail, restaurants, personal services, and recreational facilities in office zones can reduce the need for a vehicle to run lunch-time errands. (This concept will be discussed in more detail in a following section on employment centers.) Office uses, particularly professional office uses, are sometimes used to buffer residential areas from more intense commercial areas. In some communities, such as Steamboat Springs, Colorado, they are located around the edge of central business districts and housed in converted residential structures. Steamboat Springs uses design standards to maintain the residential appearance

of such structures. In such areas, homes and offices can intermix with few compatibility problems.

*Professional Office Districts provide areas for low-intensity office uses. Structures shall have exterior designs that are compatible with surrounding developments, vegetation, and topography. The Professional Office District may act as a buffer between residential and more intensively developed properties.*

**[Bellevue, Washington]**

*Office and Limited Business Districts provide areas for the location of integrated complexes made up of offices, hotels, eating establishments, and retail sales accessory to permitted uses. Such districts are located in areas that abut and have convenient access to freeways and major highways.*

**[Bellevue, Washington]**

*Permitted principal uses [in the office transitional zone] include the following:*

- A) *Any office or professional use permitted in an O-P zone.*
- B) *Small-scale retail and service businesses with a maximum 2,000-square-foot gross floor area, such as:*
  - 1) *Barber and beauty shops;*
  - 2) *Small retail, specialty shops;*
  - 3) *Shoe repair shops;*
  - 4) *Small-scale food markets and drugstores;*
  - 5) *Uses resulting from any of the following occupations: executive, administrative, professional, accounting, writing, clerical, stenographic, drafting, art supplies and sales;*
- C) *Residential uses located above the ground or first floor of the structure. . . . The residential portion of the mixed-use developments shall be limited to 35 percent of the total floor area of the development. . . .*
- D) *Private, semi-private, and public recreational uses (e.g., community centers, exercise clubs).*

**[Bothell, Washington]**

Even very large, auto-oriented shopping centers can be made more transit and pedestrian friendly over time, particularly if the centers undergo a major remodeling, which most of them do at some point. Better pedestrian connections should be encouraged or required in and around shopping centers whenever the opportunity arises. Where building additions are contemplated, they should be modified to create at least some building entrances on the public street. In addition, high-density residential development and office development can be encouraged (through zoning requirements or incentives) within walking or riding distance of shopping centers. As pedestrian connections and transit service improve, some of the parking area can be devoted to building additions, or new structures may be built on outlying areas of the parking lot. Most major renovations of suburban shopping centers have included parking structures (rather than added surface parking) as undeveloped land has decreased in supply and increased in value.

### MIXING USES WITHIN THE SAME BUILDING

Mixing uses within the same building places different uses in the closest possible proximity. Walking, bicycling, or using public transit to reach such buildings will often be as practical or more practical than driving an automobile. Many ordinances encourage (or require) pedestrian-oriented uses on the ground floor of mixed-use buildings and allow residential, office, or other uses on upper floors. Others may limit some or all of the streetfront portion of the ground floor to commercial use. Such vertical mixing and requirements for ground-floor use preserve convenient access to retail uses or other uses of pedestrian interest.

Vertical mixing of uses seems to be more accepted and successful in dense commercial areas of large cities that have considerable pedestrian activity. It has been less successful in suburban areas and outside of central business districts, where lower densities and little pedestrian activity are the norm. Even within a large city,

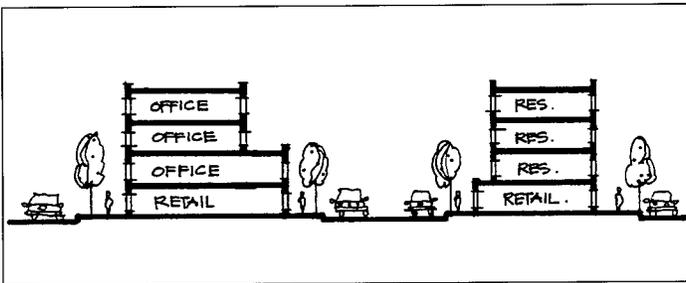


Figure 3-2. Ground Floor Retail

vertical mixing may not be appropriate in all types of centers. The consultant study of mixed-use development in Seattle found that the city's requirements were too inflexible and contributed to the failure of some projects. As a result, Seattle is now placing greater reliance on frontage requirements as indicated in a following provision.

*Retail developments in the core commercial area may add additional floors of residential and/or office uses up to two floors of residential uses for every ground floor of retail, or up to one floor of office for every ground floor of retail. The intensity of the retail use must not be reduced and the buildings must be consistent with the design guidelines.*

[Sacramento County, California]

### Ground-Floor Commercial Requirements

*A mix of uses, either within a single building or on a development site, must be provided. Residential uses must be provided, but are not permitted on the ground floor of mixed-use structures. In the Downtown activity center, commercial uses must be provided on the ground floor.*

[Vancouver, Washington  
(applied in a mixed-use zone)]

*A minimum of 80 percent of a structure's streetfront facade at street level shall be occupied by nonresidential uses. Except in zones designated NC2/R and NC3/R, [mixed-use residential and commercial zones], the required nonresidential use shall*

*either extend at least 30 feet in depth from the street facade of the structure, provided that the minimum required depth may be averaged, with no depth less than 15 feet, or have an area equal to 50 percent of the structure's footprint, whichever is less. In all NC and C zones, the nonresidential use portion of the development shall also be subject to the following.*

1. *For purposes of calculating the 80 percent of a structure's streetfront facade at street level, 22 feet for the width of a driveway accessing parking may be subtracted from the length of the streetfront facade if the access cannot be provided from a side street or alley.*
2. *If the nonresidential and residential uses are located in separate structures, the 80 percent requirement shall apply to the lot's lineal street frontage at street level.*
3. *Areas required to be in nonresidential use under this section shall be uses other than principal use or accessory parking, mini-warehouses, warehouses, lodging uses, or utility uses.*
4. *Where the lot fronts on two or more streets and abuts a lot that is not zoned commercial, the streetfront facade requirement shall apply to the structure's facade along the street with the greatest continuous lineal feet of commercially zoned frontage.*
5. *Where a lot fronts on two or more streets and only abuts lots that are zoned commercial, the streetfront facade requirement shall be calculated by totaling the combined streetfront facades of the structure containing the required nonresidential use. On a through lot, the Director may waive the requirement for one of the streetfronts if the street is not a major commercial street. The Director may require screening of garbage cans, parking, and utility meters where the streetfront facade requirement is waived.*

[Seattle, Washington]

*The first-floor streetfront of a building and 60 percent of the building area on the first floor cannot be used for residential uses. [Note: mixed use is permitted outright in the central commercial area and as a conditional use in other commercial zones.]*

[Uniontown, Washington (applied  
in all commercial zones)]

*Where business and residential portions of the building are located on different floors, business/commercial uses shall occupy the floors below the residential uses to preserve a residential atmosphere for the residents above.*

[Dupont, Washington]

### Designating Mixed-Use Development Zones

Many communities are beginning to designate mixed-use zones to allow a broad range of uses. These zones generally require some type of site plan or master plan review to ensure that the proposed uses are mutually supportive and that the development works together as an whole. Some communities use a floating zone approach that is not tied to a specific location on a map until a developer comes in with a workable proposal at a specific site. In other cases, communities create zones in specific locations to accomplish special purposes. For instance, a number of communities have created mixed-use zones surrounding transit stations (both light rail and

bus stations). (See Appendix J, Gresham, Oregon, Civic Neighborhood Plan District Standards for Transit/Mixed-Use-Zones.) Still other communities have used mixed-use zones as transitional areas or to maintain uses in the area that would otherwise be pushed out. For instance, Olympia, Washington, has established a residential mixed-use zone to preserve existing housing within walking distance of its downtown.

The Mixed-Use District is a floating zone intended to provide the community with a mix of mutually supporting urban retail, service, office, light industrial, and residential uses. It promotes physically and functionally coordinated and cohesive site planning and design that maximizes land use. It also encourages development of a high-density, active, urban environment which is expected to:

- A. Achieve the goals and objectives of the Community Framework Plan and the Vancouver Urban Area Comprehensive Plan;
- B. Fulfill the community vision identified through the Visual Preference Survey and other opportunities for public involvement;
- C. Enhance livability, environmental quality, and economic vitality;
- D. Maximize efficient use of public facilities and services;
- E. Provide a variety of housing types and densities;
- F. Reduce the number of automobile trips and encourage alternative working modes.
- G. Create a safe, attractive, and convenient environment for living, working, recreating, and traveling.

[Vancouver, Washington]

The MU [mixed-use] district is established to achieve the following purposes:

- 1) To enable development within the city with imaginative site and building design in a compatible mixture of land uses that will encourage pedestrian rather than automotive access to employment opportunities and goods and services
- 2) To ensure sensitivity in land use and design to adjacent land uses in the MU district, and avoid the creation of incompatible land uses
- 3) To ensure that all development gives adequate consideration to and provides mitigation for the impacts it creates with respect to transportation, public utilities, open space, recreation, and public facilities, and that circulation, solid waste disposal and recycling, water, sewer and stormwater systems are designed to the extent feasible to be adequate to serve future adjacent development that can reasonably be expected
- 4) To ensure that development protects and preserves the natural environment to the maximum extent possible, including, but not limited to, protection of the water quality of the Snoqualmie River, contribution to the long-term solution of flooding problems, protection of wetlands and sensitive areas, and protection of view sheds.

[Snoqualmie, Washington]

The purpose and intent of the mixed-use district is:

- a) to preserve existing downtown housing and to ensure that high-density housing and mixed-use development are included in appropriate areas; the permitted commercial uses are intended to help preserve the residential use of the area through provision of personal services within walking distance of the residences;
- b) to increase development intensity in this zone while providing an alternative to the creation of an exclusive residential zone; commercial development flexibility would be increased while meeting the housing objectives of the comprehensive plan;
- c) to encourage the development of downtown housing in a wide range of types and prices and rent levels;
- d) to integrate the RMU [residential mixed-use] zone with surrounding business and commercial zones by allowing small-scale commercial establishments that would serve both residents and walk-in trade from nearby offices;
- e) to create a continuity of pedestrian-oriented streetscapes and activities throughout the zone; and
- f) to permit development of a scale, height, and bulk that reinforces downtown's historic character, buildings, places, and street layout.

[Olympia, Washington]

Purpose. The Station Area Interim Protection District (SAIPD) is an overlay zone intended to direct and encourage transit-supportive and pedestrian-sensitive development within areas in close proximity to planned Westside Project and Hillsboro Extension light rail station sites, pending the development and adoption of specific area plans.

[Hillsboro, Oregon]

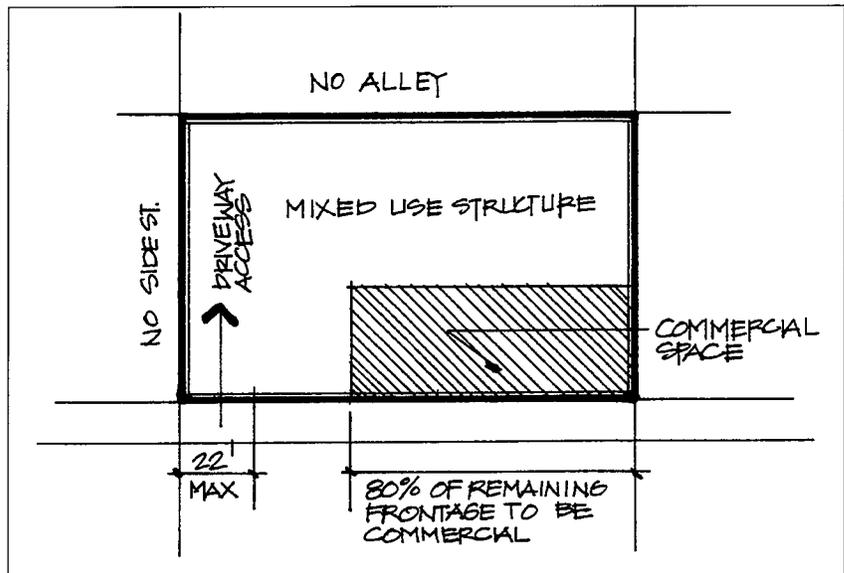


Figure 3-3. Frontage Requirements

## PROVIDING SUPPORTING USES IN EMPLOYMENT CENTERS OUTSIDE OF CENTRAL CITIES

The degree to which retail and public services are provided within or adjacent to an employment center is the primary determining factor in the transportation mode choice of suburban office workers, according to a University of California at Berkeley study cited by Frank and Molyneaux (1994). When commercial services, such as banks, day care, restaurants, and dry cleaning, are located near industrial and office employment centers, workers can take care of many daily errands without a car. Apartments and condominiums may also be appropriate in the vicinity of light industrial or office parks. Such multifamily development can give workers the option of living near where they work.

*The primary purpose of the Business and Industrial Park (BP) zone classification is to provide suitable areas for commercial development where the primary land uses are manufacturing, product assembly, wholesale sales, and professional and business office development. Other uses may include health care facilities and public facilities and services; however, limited retail sales and services may be allowed to serve the needs of the business park tenants and users. Principal uses are:*

- A) *Offices, including but not limited to government, research and development, trade schools, and professional services;*
- B) *Wholesale sales;*
- C) *Warehousing;*
- D) *Manufacturing;*
- E) *Financial Institutions;*
- F) *Day Care Centers;*
- G) *Health Clubs; and*
- H) *Retail sales and services primarily intended to serve the Principal BP zone uses. Such uses shall occupy no more than 15 percent of the constructed floor area of individual buildings and complexes. In addition to the limitation on floor area, restaurants, delis, and other eating establishments are restricted to a maximum floor area of 1,500 square feet.*

[Mill Creek, Washington]

## PROVISIONS TO IMPROVE COMPATIBILITY OF MIXED USES

Mixing land uses within walking distance of one another was standard practice when most cities and towns first developed. Since the advent of Euclidean zoning and the automobile, land uses have been separated into distinct zones. The automobile has made it possible to create larger zones and separations that are scaled to driving distances rather than walking distances. Much of the impetus behind the separation of uses was a concern about the impacts of different uses and activities on each other. New technologies and design techniques make it increasingly possible to locate different types of uses in close proximity while addressing these impacts. The purpose of this section is to provide examples of provisions that address compatibility issues.

## Separating Uses While Maintaining Practical Walking Distances

Some communities have changed the focus of mixed-use zoning from requiring a vertical mix (same building) to requiring a mix of uses within a practical walking distance. Allowing for some physical separation can reduce compatibility problems while still meeting objectives for pedestrian- and transit-supportive development. Until recently, the city of Seattle required a mix of commercial and residential development in the same building in its mixed-use zones. The city now allows a mix of uses within a site.

Some communities continue to separate land uses into zones but are using small-scale zones to make walking practical. For instance, Montgomery County, Maryland, uses several different zone categories in the vicinity of transit stations. The TS-M zone, located closest to the transit station, provides for a wide range of commercial, service, and residential uses. The TS-R zone, located in close proximity to the TS-M zone, allows a mix of residential uses with retail and service uses as incidental uses or by special exception. Because the TS-R zone is within walking distance of the station (within 1,500 feet), residents can take advantage of the retail and service uses in the TS-M zone. Although Montgomery County's special zones are focused on rapid transit stations, similar zoning arrangements can be applied to bus stations. Small neighborhood commercial centers in residential neighborhoods also fit this concept of mixed use within walking distance. This is especially true when the neighborhood centers contain some multifamily residential use. (See the discussion in the previous section for examples of neighborhood centers serving mixed-use objectives.)

*Purposes of the TS-R zone.*

- a) *To promote the effective use of the transit station development areas and access thereto;*
- b) *To provide multiple-family residential densities for use at locations within walking distance of the transit stations;*
- c) *To provide a range of densities that will afford planning choices to match the diverse characteristics of the several transit station development areas within the county; and*
- d) *To provide the maximum amount of freedom possible in the design of buildings and their grouping and layout within the areas classified in this zone; to stimulate the coordinated, harmonious, and systematic development of the area within the zone, the area surrounding the zone, and the regional district as a whole; to prevent detrimental effects to the use or development of adjacent properties or the surrounding neighborhood; . . .*

*Purposes of the TS-M zone.*

- a) *To promote the optimum use of the transit facilities by assuring the orderly development of land in transit station development areas and access, both vehicular and pedestrian stations;*
- b) *To provide for the needs of the workers and residents of transit station development areas;*
- c) *To provide for the incidental shopping needs of the transit facility riders at Metro stations having parking*

- d) facilities for large numbers of riders;
- d) To minimize the necessity for automobile transportation by providing, in largely residential transit station areas, the retail commercial uses and professional services that contribute to the self-sufficiency of the community;
- e) To obtain amenities for the residents and workers in transit station areas not ordinarily obtainable in conventional zoning classifications; and
- f) To prevent detrimental effects to the use or development of adjacent properties of the neighborhood.

**[Montgomery County, Maryland]**

In addition to being within practical walking distance, there must not be barriers blocking pedestrian access between uses. For instance, if commercial, residential, and other uses are separated by freeways or major arterial streets, walking between the uses will not be practical.

**PROHIBITING USES IN MIXED-USE ZONES**

Some communities partially address compatibility issues by prohibiting uses that have impacts that are difficult to control or that do not complement the purposes of the mixed-use zone, such as auto-oriented uses. Although they may be permitted elsewhere in the community, they are physically separated from the mixed-use zone.

*Prohibited uses are as follows:*

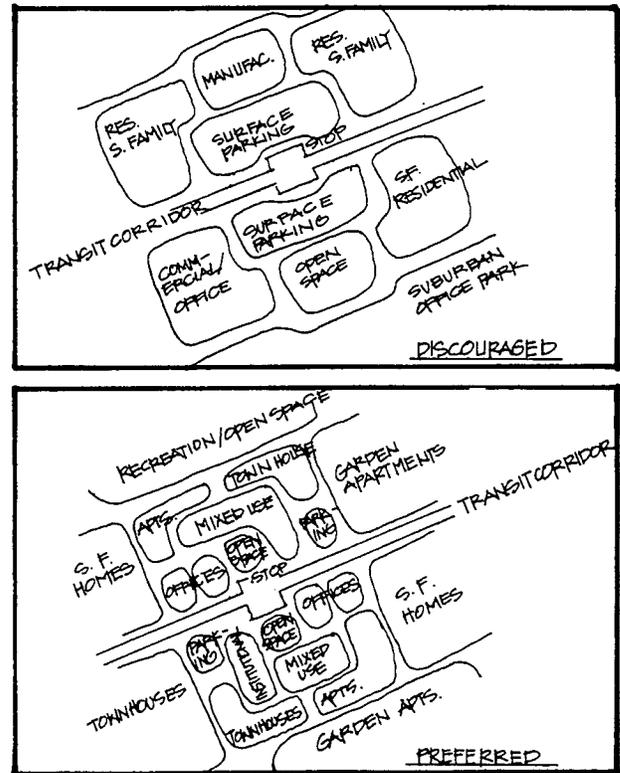
- a) Uses other than those identified or described as permitted or conditional uses are prohibited;
- b) Drive-in and drive-through businesses and uses as primary and accessory uses;
- c) Garden supplies, automotive dealers, and service stations.

**[Olympia, Washington]**

*The following uses are specifically excluded:*

- 1) Residential uses other than multifamily;
- 2) Mobile homes;
- 3) Recreational vehicle campgrounds;
- 4) Junkyards or wrecking yards;
- 5) Mining and drilling for or removing oil, gas, or other hydrocarbon substances;
- 6) Refining of petroleum or of its products;
- 7) Commercial petroleum storage yards;
- 8) Commercial excavation of buildings or construction materials other than in the normal course of building construction or site preparation;
- 9) Distillation of bones;
- 10) Dumping, disposal, incineration, or reduction of garbage, sewage, offal, dead animals, or refuse;
- 11) Fat rendering;
- 12) Stockyard or slaughter of animals;
- 13) Smelting of iron, tin, zinc, or any other ore;
- 14) Truck terminals;
- 15) Automobile, go-cart, motorcycle, or other vehicle races or endurance tracks;
- 16) New or used car sales lots.

**[Bothell, Washington]**



**Figure 3-4. Small-Scale Zones for Practical Walking-Distances**

**TRANSITION AREAS BETWEEN RESIDENTIAL AND NONRESIDENTIAL USES**

Landscaping, screening, setbacks, gradual transition of intensity or use type, and other site design approaches have been used to create a transition between different types of uses. In mixed-use zones that are intended to be transit-supportive, transition approaches like setbacks or landscaping strips that require increased land area may need to be balanced with the objective of promoting more intensive, compact development.

*Any development within the district shall provide significant screening and buffering to adjacent residentially zoned property. A minimum of 20 feet of vegetative screening shall be maintained, established, or reestablished adjacent to residentially zoned property.*

**[Lynnwood, Washington]**

**33.130.225 Landscaped Areas**

- A. Purpose. Landscaping is required in some zones because it is attractive and it helps to soften the effects of built and paved areas. It also helps reduce stormwater runoff by providing a surface into which stormwater can percolate. Landscaping is required for all commercial-zoned lands abutting R-zoned lands to provide buffering and promote the livability of the residential lands.
- B. Minimum landscaped area standard. The required amounts of landscaped areas are stated in Table 130-3. Required landscaped areas must be at ground level and comply with at least the L1 standard [requires high screens] as stated in Chapter 33.248, Landscaping and Screening. However, up to one-third of the required

Height of the building wall	Lots abutting a side lot line of an R zone lot	Lots abutting a rear lot line of an R zone lot
15 feet or less	5 feet	0
16 to 30 feet	8 feet	8 feet
31 to 45 feet	11 feet	11 feet
46 feet or more	14 feet	14 feet

landscaped area may be improved for active or passive recreational use, or for use by pedestrians. Examples include walkways, play areas, plazas, picnic areas, and unenclosed recreational facilities. Any required landscaping, such as for required setbacks or parking lots, applies towards the landscaped area standard.

[Portland, Oregon]

The following design standards apply to all development within the Perimeter Design District:

- a) Each building facade facing a street must incorporate a 15-foot-deep setback in that facade at a height no more than 40 feet above average finished grade.
- b) Lighting fixtures shall incorporate cutoff shields to minimize offsite impacts.
- c) Signs within the Perimeter Design District must comply with the requirements of [Section \_\_].
- d) Traffic Mitigation:
  - i) The Director. . .may require mitigation measures relating to traffic impacts resulting from the project in the Perimeter Design District. Mitigation measures may include, but are not limited to, traffic diverters in adjacent neighborhood area, installation of medians, installation of left turn barriers, or neighborhood street enforcement.
  - ii) The city may require the property owner to participate in the funding of mitigation measures required as a result of traffic impacts associated with development on the property.

[Bellevue, Washington]

Business and residential portions of the (mixed-use) building must be separated either by a soundproofed concrete or masonry wall or two framewalls at least two feet apart, each insulated or otherwise soundproofed with the intervening space unoccupied except for utility lines, heating and air conditioning ducts, and similar devices not producing noise or vibration or requiring regular access.

[Dupont, Washington]

**Performance Standards to Ensure Compatibility**

Rather than enumerate specific uses or height and bulk standards, performance standards are designed to mitigate the potential impacts of a project on surrounding development. A greater variety of uses can be permitted provided that potential undesirable impacts are addressed.

In order to serve the purpose of permitting a wide variety of compatible land uses, permitted uses are not limited to any particular number of specified uses. Rather, any use which is consistent with the purposes of this zone and the North Creek Valley comprehensive plan and which is not in conflict with the following [subsections] is permitted:

- A. No use shall be permitted, excluding reasonable construction activity, which:
  1. emits significant quantities of dust, dirt, cinders, smoke, gas, fumes, odors, or vapors into the atmosphere;
  2. emits any liquid or solid wastes or other matter into any stream, river, or other waterway;
  3. emits radiation, or discharges glare or heat, or emits electromagnetic, microwave, ultrasonic, laser, or other radiation;
  4. produces excessive noise or ground vibration perceptible without instruments at any point exterior to any lot;
  5. uses heavy trucking as a principal use, such as warehousing, distribution centers, and truck terminals;
  6. uses open storage; or
  7. is carried on in a manner which is intended or has the effect of attracting freeway motorists as a substantial source of business.

[Bothell, Washington]

**Design Standards/Guidelines to Promote Compatibility**

In mixed-use zones, attention must be given to ensuring that development is aesthetically and functionally compatible with adjacent development. To maintain flexibility, many communities have established

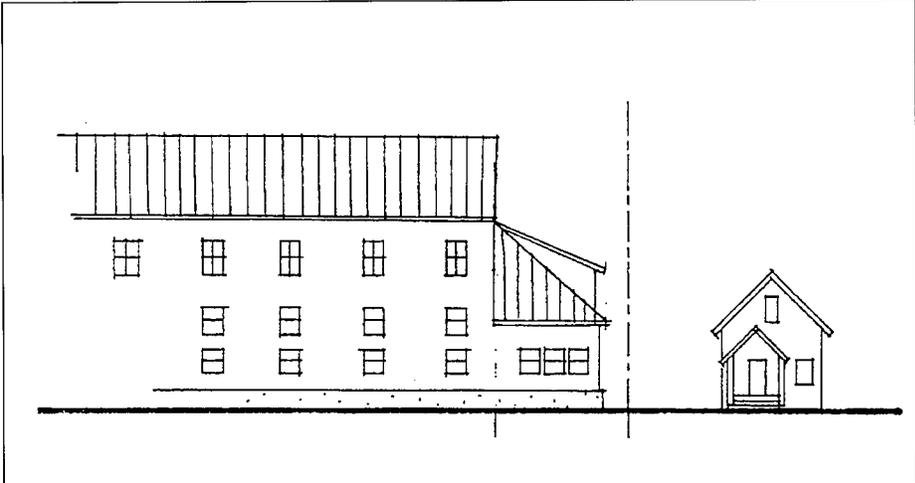


Figure 3-5. Building Bulk Stepdown

guidelines, rather than standards, to be used in the design review process. Guidelines generally provide a developer with choices for compliance. For instance, Ft. Collins, Colorado, has a performance-based system in which a developer receives points for incorporating a range of design elements in a development. A certain number of points must be achieved for development approval. This gives the developer options as to which design recommendations he or she chooses to emphasize. In addition, a number of absolute design standards must be met.

Other communities offer incentives for meeting design guidelines. Chapter 1 contains provisions that address compatibility of adjacent developments. If an area has an established historical or architectural character, guidelines may provide specific suggestions about window type, building materials, and other architectural features critical to maintaining the character of the district.

The examples in this section are limited to more universally applicable provisions for cohesive and interesting design.

#### *Building Scale Transition.*

- 1) *A large structure should contain design elements that create a transition to the human scale, particularly near the ground.*
- 2) *If a development is larger or smaller than its adjacent physical context, the design should provide transitional, scaled elements at the perimeter to integrate it with its surroundings.*
- 3) *Transition using variety of scale, pattern, and texture of building and landscaping elements is encouraged to create a more visually interesting project.*
- 4) *Buildings should be designed to reveal or express their primary patterns of use and entry. This will not only assist comprehensibility, but also achieve a desirable variety.*
- 5) *The proposed building orientation should respect the orientation of surrounding buildings and streets and should relate to other buildings on the same site in regard to pedestrian circulation. The proposed building should also respect the scale of those buildings located on adjacent properties and, where desirable, serve as an orderly transition to a different scale.*
- 6) *Buildings shall be designed and located to complement and preserve existing natural landforms, trees, shrubs, and other natural vegetation, where appropriate.*
- 7) *Buildings should be articulated to create transitional scaled elements that relate to existing buildings.*

**[Vancouver, Washington]**

#### **Requiring Conditional or Special Permit Approval**

Many communities require a special or conditional use permit for certain uses to ensure compatibility with surrounding development. Conditional use provisions can provide some flexibility while ensuring that land uses do not interfere with transit and pedestrian travel options. A process that involves public hearings or becomes too onerous may discourage property owners from applying for a conditional use permit.

*Fast-order-food establishment [shall be permitted] only if it is not located in a separate structure, it does not exceed 3,000 square feet gross feet [in] area, and there will be no more than three such establishments within the District; and it is granted a Special Permit, as provided in [Section \_\_\_\_].*

**[Cambridge, Massachusetts]**

*Automobile service station [shall be permitted], provided that it is located within or attached to a parking garage or other structure as an accessory use, that no major repairs are made on the premises, and that all lubrication and repairs are carried out within the building.*

**[Cambridge, Massachusetts]**

*The following uses are allowed in the Mixed Use/Transit Supportive/Business zone subject to the conditions and procedures set forth below and only by issuance of a special use permit: banks and other financial institutions; business, professional and medical offices buildings, including offices of a clerical or administrative nature; carnivals and circuses as an accessory use; child day care; churches as defined in [Chapter \_\_\_\_] with parking in accordance with standards of [Chapter \_\_\_\_]; municipal services; motels and motor hotels; parking garages and accessory refueling and servicing; professional services not mentioned elsewhere in this [Section]; radio and television stations, not including transmitting and receiving towers.*

**[Lynnwood, Washington]**

#### **PROVIDING FOR A BALANCE OF USES**

If mixed-use development is to succeed as a strategy to create vibrant, transit- and pedestrian-friendly areas, uses must be mutually supportive. A critical mass of commercial uses must exist to reinforce one other and to attract and meet the needs of nearby residents. There must be sufficient densities of residents and/or employees to support the businesses. In contrast, retail uses that are incorporated into industrial projects must be sized relative to demand.

Many communities have applied “inclusionary” requirements to ensure that predominant uses in a zone do not displace other desired uses. These requirements may involve thresholds triggered by percentage of floor area criteria. It may also be necessary to include provisions that discourage domination by some profitable uses. However, rigid formulas that are out of step with market dynamics may be counterproductive. In 1988, the city of Seattle began requiring that commercial space be included in certain types of development projects. Unfortunately, a stunning 47 percent of the commercial space in 51 completed projects still remained vacant as of December 1993. This vacant commercial space is not accomplishing mixed-use objectives and may ultimately have a blighting effect on surrounding uses. Based on this experience, the city has moved to a more flexible requirement.

Developers and architects responding to the Seattle mixed-use survey observed that “overzoning” for commercial uses within a jurisdiction weakens demand for commercial uses in mixed-use projects in the places where conditions are more favorable. Rather than

spreading out activity-generating uses and diluting their effects, developers recommended concentrating such uses within defined centers and along pedestrian routes. If percentage requirements for inclusion of commercial space are used, overall commercial zoning should be limited to viable locations. In addition, ranges of percentage floor area requirements or other more flexible approaches for achieving balance should be considered.

### Limits to Maintain a Balanced Mix of Uses

#### Required Mix of Uses

- A) *A mix of uses, either within a single building or on a development site, must be provided, except as noted in [Section \_\_]. Residential floor area must be provided but is not permitted on the ground floor of mixed-use structures. A minimum of 30 percent of the development shall be commercial and a minimum of 30 percent of the development shall be residential. The remaining development capability may go to either use up to a maximum of 70 percent for any one type. This percentage shall be calculated in the square feet devoted to each type of use. In addition the minimum densities in [Section \_\_] below are required.*
- B) *Projects located on existing lots of record of 5,000 square feet or less may develop with no required mix of uses. They are required to meet the minimum density of whichever use is proposed.*

[Clark County, Washington]

*Residential uses and residential parking are prohibited on the ground floor, on the front half of the lot, except in the CC-4 and CC-5 zones, where such uses are prohibited on the ground floor on the front 30 feet of the lot.*

[San Diego, California]

*Mixed-use developments may be approved by the city on residentially, commercially, or industrially zoned properties within the Station Area Interim Protection District. Mixed-use developments may combine either residential and commercial uses, or commercial and industrial uses, within one or more structures. Within a mixed-use development, uses permitted in the underlying zone shall occupy a minimum of 60 percent of the floor area of the structure or structures. Applications for mixed-use developments less than two acres in area shall be subject to criteria and the procedures specified in [Section \_\_]. Applications for mixed-use developments two acres or larger in area shall be subject to the criteria and the procedures specified in [Section \_\_, Planned Unit Development].*

[Hillsboro, Oregon]

In some situations, commercial uses may tend to drive out desired residential uses or threaten historic structures. This is often true in transitional areas near major commercial centers. Olympia, Washington, is seeking to preserve housing within walking distance of its central business district by applying mixed-use zoning with restrictions on commercial development. Again, some flexibility should be built in to ensure that a balance of uses is permitted that supports project viability while addressing housing objectives.

### Residential Requirements

- 1) *Percentage of Residential Development. Residential development shall comprise greater than 50 percent of the gross floor area of any development permitted in this zone after January 1, 1994. Nonresidential conditional uses are exempt from this residential requirement.*
- 2) *Housing Requirement. Required housing constructed in this zone must be developed within that area zoned RMU, which is the location of the proposed project. The following requirements apply:*
- a) *One hundred percent housing development;*
  - b) *Up to 50 percent commercial development on the following configurations:*
    - i) *In a mixed-use building,*
    - ii) *With commercial and residential uses on separate sites on the same site, or*
    - iii) *With commercial and residential uses on separate sites within that contiguous zone.*

[Olympia, Washington]

*Conversion of residential [areas] to Retail Sales and Service, Office, Manufacturing and Production, or Wholesale Sales uses is allowed, if after conversion, there is at least one square foot of residential floor area for each square foot of these nonresidential uses.*

*Conversions of residential [areas] to Retail Sales and Service, Office, Manufacturing and Production, or Wholesale Sales uses that exceed the 1-to-1 square foot ratio for residential to nonresidential uses are prohibited.*

[Portland, Oregon]

### Provisions Allowing Incidental or Accessory Uses

A number of communities provide an option for limited commercial and service uses in industrial, office, and residential zones. At the same time, the amount of commercial use provided is limited to ensure that it remains incidental to the primary use of the zone. Because it is optional, a developer is not forced to provide commercial use for which no market exists.

*Retail sales and services primarily intended to serve the Principal BP [business park] zone uses. Such uses shall occupy no more than 15 percent of the constructed floor area of individual buildings or complexes. In addition to the limitation on floor area, restaurants, delis, and other eating establishments are restricted to a maximum floor area of 1,500 square feet.*

[Mill Creek, Washington]

*Permitted principal uses include the following:*

- A) *Any office or professional use permitted in an O-P zone.*
- B) *Small-scale retail and service businesses with a maximum 2,000-square-foot gross floor area, such as:*
- 1) *Barber and Beauty shops;*
  - 2) *Small retail, specialty shops;*
  - 3) *Shoe repair shops;*
  - 4) *Small-scale food markets and drugstores;*
  - 5) *Uses resulting from any of the following occupations: executive, administrative, professional, accounting, writing, clerical, stenographic, drafting, art supplies and sales;*

- C) Residential uses located above the ground or first floor of the structure, subject to the following:
- 1) The residential portion of the mixed-use developments shall be limited to 35 percent of the total floor area of the development. . . .

**[Bothell, Washington (applied in a business/office professional/residential transition zone)]**

Any retail sales and consumer services establishments as permitted in [Section \_\_\_], either as a permitted use or as a special exception, shall be incidental to and may be located only within a multiple-family structure that is [ ] or more stories in height, in a development that contains [ ] or more dwelling units and shall be subject to the following requirements:

Only the following uses shall be permitted:

Retail sales and services such as:

- Florist
- Gift or jewelry store
- Newsstand or bookstore
- Grocery
- Restaurant

Personal services such as:

- Barber shop or beauty shop.
- Dry cleaning pick-up station (may include pressing).
- Laundry, pick-up station.
- Laundry, self-service.
- Medical or dental offices.
- Valet shop.

Such establishments shall not be located above the ground-level floor; except, that a restaurant may be permitted on the top or penthouse floor thereof; . . .

Establishments shall be so located and constructed to protect tenants or the building from noise, traffic, odors and interference with privacy.

**[Montgomery County, Maryland (applied in a high-density residential zone)]**

## MEASURES TO PROVIDE AMENITIES

The goal of a mixed-use district should be to create a lively, stimulating, attractive environment for strolling, shopping, working, living, and pursuing amusement. Whether it is a special purpose neighborhood or an employment center, it should cater to the needs of residents or employees within walking distance. Both new and existing development should contribute their share of amenities and facilities to attract people and activity.

A common theme in mixed-use success stories has been the strategic investment by the local jurisdiction in supporting facilities, streetscape improvements, and other amenities. By carefully targeting public investment, local jurisdictions have repeatedly succeeded in leveraging extensive complementary private-sector investment. Public improvements that supplement what is required of new development greatly enhance the chance of success

for a mixed-use center. For example, the Oregon Department of Land Conservation and Development has drafted legislation encouraging Oregon cities to designate “focused public investment areas.” A local jurisdiction would outfit target areas with a full range of facilities to support new development before opening up new areas for public investment, except in situations in which the entire urban growth area would benefit. Developers who choose to build outside the investment area would be required to provide all needed on- and off-site supporting infrastructure.

Chapter 1 of this report described measures to achieve a safe, convenient, and interesting network of pedestrian and bicycle paths and facilities. Continuous networks are an essential starting point to providing alternative travel modes to and within mixed-use developments. That chapter also describes streetscape and site design improvements—street trees, street furniture, and ground-floor retail—which can make these districts more appealing. What follows here are examples of how to improve the appearance and encourage human scale for development in mixed-use areas. This section also offers several additional examples of provisions for securing amenities and public improvements in mixed-use districts.

## Requirements or Incentives for Amenities

An increase in maximum densities for office/commercial floor area ratios may be granted when an area equivalent to at least 10 percent of the total area of the structure’s first floor is devoted to amenities, such as a plaza courtyard, playground, galleria, or arcade or [enclosed] parking facilities. [The total] floor area ratio [permitted by the city] may increase to no more than four square feet [of building floor area] per square foot of site area.

**[Clark County, Washington]**

The following provisions allow density bonuses for multiple-use or mixed-use occupancy projects:

[To permit a gross floor area ratio of between .35 and .70]: A plaza or commons area must be provided. It must be accessible to and generally benefit the public. The plaza or commons area must be adjacent to a public road right-of-way. Outdoor seating for at least 200 persons per plaza or commons area must be provided.

**[Dupont, Washington]**

Child care facility bonus. In the CR-1-1, and the CR-1-2 zones, a floor area ratio bonus over the otherwise allowable FAR is permitted at the rate of four square feet of floor area for each one square foot of space in the child care facility. The area designed for the facility must be used for child care for a minimum of 10 years and must meet the requirements of the Child Care Facilities Ordinance.

**[San Diego, California]**

Required landscaped areas must be at ground level and comply with at least the L1 standard as stated in [the chapter on] Landscaping and Screening. However, up to one-third of the required landscaped area may be improved for active or passive recreational use, or for use by pedestrians. Examples include

walkways, play areas, plazas, picnic areas, and unenclosed recreational facilities. Any required landscaping, such as for required setbacks or parking lots, applies towards the landscaped area standard.

**[Portland, Oregon]**

Street trees shall be planted on all street frontages and within all median strips within the Mixed-Use Zoning District. In addition, street trees shall be placed a minimum of two feet from the curb and shall be (of a) species approved by the reviewing authority.

**[Clark County, Washington]**

#### Uses That Attract People and Serve the District

Mixed-use areas should cater to the convenience goods and services needs of local residents, employees, and transit stop users. Uses that entertain, create activity on the street, and attract day and night activity are especially appropriate. In addition, it may be appropriate to limit some uses that detract from or interrupt the flow of interesting, pedestrian-generating uses along the street. Parking lots, other automobile-oriented uses, and businesses requiring extensive space or specializing in large bulky items can interrupt an interesting stretch of storefronts.

*Outdoor business activities are permitted in the public right-of-way only if additional public sidewalk is provided, greater than the required width. No business activities are allowed within the minimum required width. If additional sidewalk width is provided the applicant may provide outside space of up to 5 percent of the total inside floor area devoted to that use.*

**[Clark County, Washington]**

*Sidewalk width requirements shall be increased to a range of 12 to 16 feet on streets designated as major pedestrian corridors. The sidewalk widths exceeding the amount required in the King County Road Standards may occur on private property adjoining the street right-of-way.*

**[King County, Washington (applied within a pedestrian overlay district)]**

*Permitted Uses. The following uses, except as explicitly prohibited, are permitted in the Cambridge Center [mixed-use] District. All uses not listed within one of the use groups in this [Section] shall be prohibited. All uses within the District shall comply with the environmental protection standards of [Section \_\_].*

#### Retail and Consumer Establishments

- 1) Store for retail sale of merchandise, but not a sales place for automobiles or trucks.
- 2) Eating and/or drinking establishment, whether or not liquor is sold or consumed, including restaurant, bar, lunchroom, cafeteria and food commissary.
- 3) Fast-order-food establishment only if it is not located in a separate structure, it does not exceed 3,000 square feet gross (floor) area, and there will be no more than three such establishments within the District, and it is granted a Special Permit, as provided in [Section \_\_].
- 4) Consumer service establishment, including but not limited

*to hair-dresser, barber shop, laundry, or dry cleaning pick-up establishment, self-service laundry, shoe repair or tailoring shop, or photography studio.*

#### Entertainment and Recreational Uses

- 1) Indoor commercial entertainment establishments, including, but not limited to, cinema, theater, concert hall, cabaret, and night club.
- 2) Recreation facilities, including bowling alley, indoor or outdoor tennis courts, public recreation building, health club, or skating rink. Such recreation facilities shall be allowed only if they are located in or attached to structures containing other principal uses.
- 3) Hall, auditoriums, and similar spaces used for public gatherings.
- 4) Park or playground.

**[Cambridge, Massachusetts]**

The above list illustrates some of the uses that meet convenience needs and draw people and activity. Note that Cambridge also allows multifamily residential, hotel and motel, and a range of light industrial uses, office and biotechnology manufacturing uses, institutional uses (including libraries and museums) as accessory uses, and clinics, and transportation/communication and utility uses. Montgomery County, Maryland, has a similar list of permitted uses in its transit station mixed-use business zone. However, uses permitted in the transit area residential zone are more limited or often restricted to being incidental or accessory uses serving the immediate development.

#### MAINTAINING FLEXIBILITY TO MATCH MARKET DEMAND

To successfully stimulate mixed-use development, communities must have code provisions that allow it to happen. Unless local jurisdictions are prepared to become the developer, most mixed-use development will continue to be by the private sector. Developers will not build these projects unless they can make a reasonable return on their investment.

Some of the sections above have pointed out provisions that can add flexibility to mixed-use provisions. Requirements to provide a mix on the same site or within walking distance are less rigid than those requiring a mix within the same building. Performance standards can be used with mixed-use development to allow a wider variety of uses while controlling any impacts on neighboring uses.

Local jurisdictions may need to be proactive in promoting the mixed-use concept with the development community, financial institutions, and community residents. The potential market for mixed use may not be immediately obvious to developers and bankers who have become accustomed to single-use projects. Incentives, sufficient density allowances, and a streamlined permit process can also stimulate developer interest in mixed-use development.

## Responsiveness to Market Demand

Taking incremental steps to phase mixed-use development into the community in areas where it is likely to succeed can help demonstrate its benefits and viability. An incremental approach, combined with educational and promotional efforts, can build developer and financial institution confidence in the viability of mixed-use development.

At the same time, allowing phasing at the project level may be critical to the success of the individual developments. Businesses in a mixed-use development must be able to support each other economically. It will generally take some time before a project is built and residential densities are in place to support commercial development. In infill development situations, where a project is placed in an established neighborhood, the commercial development may have a more immediate market than other uses in the project. If a developer is permitted to finance and build the part of the project that will generate an income stream first (usually the residential portion), that income stream can be used to help finance development of other uses. A developer will not need to carry the cost of commercial space that remains vacant or unprofitable until the market builds up. The developer may also be more successful in obtaining financing if uses can proceed in phases and the density will be in place before the commercial development comes on line. Some communities allow phasing if given assurances that a mix of uses will ultimately be developed.

*Where phased development is proposed and the first phase is less than 10 acres, that portion of the property reserved for future development shall be committed to residential or business/commercial use, as required, by covenants or other enforceable means.*

[Dupont, Washington]

*A master plan development may be developed in phases, provided:*

- 1) *An estimated time period for completion of all phases shall be provided as part of the master plan application,*
- 2) *The development must be provided with adequate facilities and services at all phases of development,*
- 3) *Initiation of new phases may be prohibited until conditions imposed on previous phases (including such requirements as completion of a village center) have been met,*
- 4) *A detailed financial plan is submitted for each phase pursuant to [Section \_\_\_\_]. . . ,*
- 5) *A general sequence of phases shall be required which will assure a mix of uses and densities.*

[King County, Washington, Newcastle Community Plan/Area Zoning (applied to master planned developments)]

## Design Standards to Encourage Flexibility and Improve Market Success

Design standards can help ensure that mixed-use

projects and structures can adapt to a changing market. For instance, Seattle allows single-purpose residential structures as administrative conditional uses in neighborhood commercial zones but requires that they meet development standards of the commercial zones. This facilitates successful conversion to commercial use if market conditions become more attractive for commercial development. Seattle's mixed-use study also revealed that financial institutions prefer commercial uses that can be divided into smaller spaces for multiple tenants. As a result, Seattle eased its minimum commercial depth and area requirements.

*Except in zones designated NC2/R and NC3/R, for mixed-use development, all nonresidential use at street level shall have a minimum floor-to-floor height of 13 feet.*

[Seattle, Washington]

*A minimum of 80 percent of a structure's street front facade at street level shall be occupied by nonresidential uses. Except in zones designated NC2/R and NC3/R, the required nonresidential use shall either extend at least 30 feet in depth from the street front facade of the structure, provided that the minimum required depth may be averaged, with no depth less than 15 feet, or have an area equal to 50 percent of the structure's footprint, whichever is less [Seattle's old code required 10 percent of the gross floor area or 50 percent of the building footprint, whichever is greater, to be in commercial use without a provision for street frontage].*

[Seattle, Washington]

*A minimum of 51 percent of the portion of a structure's street front facade that contains required nonresidential use shall be at or above street grade.*

[Seattle, Washington]

*The entrance to required nonresidential uses at street level shall be no more than three feet above or below sidewalk grade. Streetscape improvements, landscaping, and pedestrian-oriented amenities. . . can also enhance the appeal of mixed-use districts and contribute to their success.*

[Seattle, Washington]

## Provide Incentives and Options Rather Than Mandatory Requirements

Mandatory design standards should focus on the key characteristics most important to the success of mixed-use districts. Using incentives to encourage provision of desired features rather than relying entirely upon requirements allows a developer greater flexibility to adjust to changing demand or to design for special circumstances. With the incentive approach, a developer should be able to gear the project design to the market. Increased densities or floor area ratios are often offered as incentives to influence the shape of mixed-use development. An expedited permit process for mixed-use development can also be an attractive incentive.



# Chapter 4. Increasing Density to Support Transit

Increasing the density of residential areas and employment centers is an effective measure to increase transit ridership. A study of the Puget Sound region by Frank and Pivo (September 1994) found that strategies to increase densities in designated neighborhoods and urban centers can reduce miles traveled by a similar amount as can mixing land uses and creating a balance of jobs and housing. Increasing density (which brings increased traffic congestion) provides an incentive for switching to transit or walking. Providing new types of housing in established residential areas can also help address the changing needs of today's smaller households.

Higher densities offer three primary benefits to improved transit service. First, routes to a relatively large number of points can be offered. Second, the cost per rider of operating transit is reduced when ridership increases. A number of studies have found that transit ridership increases significantly with density. A widely used study of U.S. urbanized areas reported that residential densities of at least seven dwelling units per acre were necessary to generate significant transit ridership. As the density approached 30 dwellings per acre, transit demand nearly tripled (Pushkarev and Zupan). Third, increased density allows transit service to be provided more frequently. Residential densities need to average at least seven dwelling units per acre to support viable feeder bus service and an average of 15 dwelling units per acre to support high-frequency bus

service (Sno-Tran 1994). King County, Washington, Metro has observed that some bus lines traveling relatively dense corridors in the Seattle Capitol Hill area (more than 13 dwelling units per acre) can support 15-minute headways. Employment-generating uses of 50 or more employees per gross acre are needed to support a high level of transit service, especially if clustered around a transit facility. The Frank and Pivo study found that a shift from cars to transit or walking does not occur until employment density reaches 50 to 75 employees per gross acre.

The population and employment densities needed to support transit are significantly higher than the average densities that exist in the Puget Sound region (on which the study was based) as well as densities in most other U.S. cities and suburbs. Further, communities are losing the density battle—new development is occurring at lower average densities than is typical in existing towns and cities. Further complicating matters, an increasing number of senior citizen households, single-parent households, and couples who delay having families has contributed to a smaller average household size. These groups have different housing needs than did the family typical of the time when much of the existing housing stock was built.

A first step for many communities in increasing density will be to ensure that transit-supportive density levels are permitted, especially in areas within walking distance of regular transit routes. The sections on single-

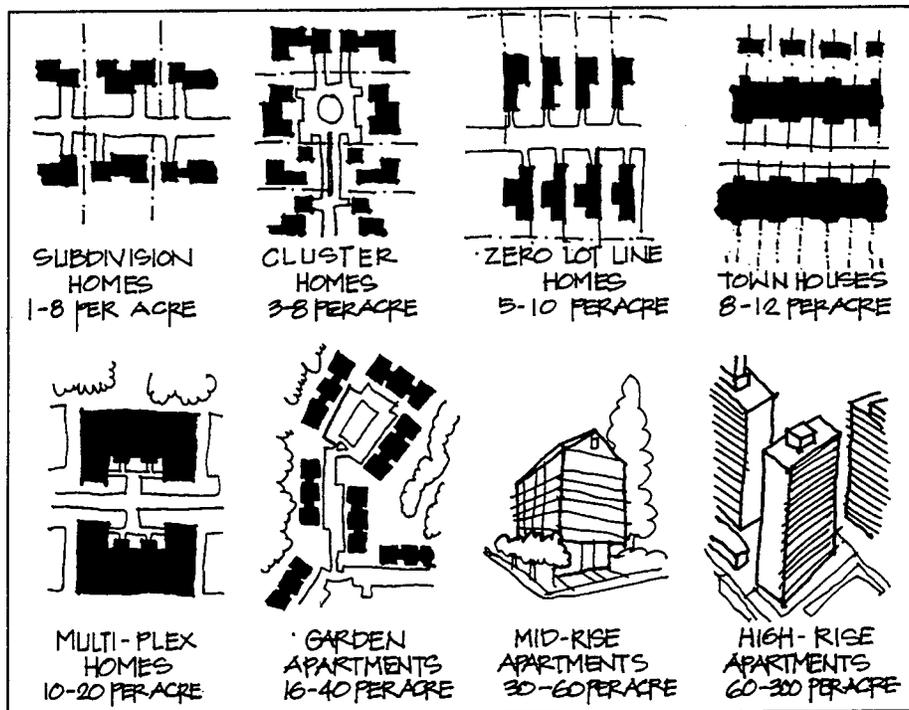
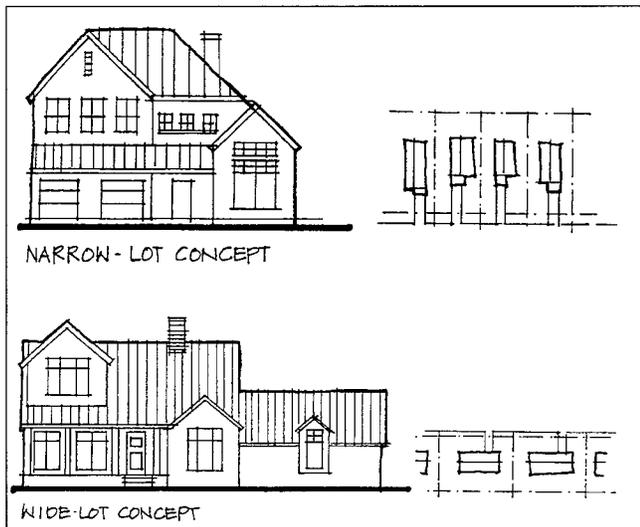


Figure 4-1. Residential Types and Densities



**Figure 4-2. Housing on Small Lots**

family and multifamily options offer examples of communities that permit transit-supportive densities for both residential areas and employment centers. As illustrated in these examples, communities could meet density goals by providing for generous multifamily densities in centers and transit corridors while maintaining extensive single-family housing. Alternately, a community could strive for more uniform densities in a more moderate range (high-density single-family and low-density multifamily densities).

Finally, in many communities, multifamily housing is perceived by citizens as unattractive, incompatible with lower densities, and lacking in amenities. This section describes a range of housing types, some of which can minimize the appearance of higher density, and provides code language that can encourage their production.

### UNDERSTANDING DENSITY

Density is defined in *The New Illustrated Guide to Development Definitions* (CUPR 1995) as “the number of families, individuals, dwelling units, households, or housing structures per unit of land.” In residential areas, density is the number of residential dwelling units per a specified area, usually acres. In discussions about density, it is also important to know whether one is referring to gross or net densities. “Gross density” means the total number of dwelling units divided by the total land area of the site, excluding nothing. “Net density” means the total number of dwelling units divided by the net area of the lot or site. The net area typically excludes roads, public open space, and community facilities, including utility rights-of-way. Environmentally sensitive areas may also be excluded. The difference between net and gross densities can be considerable, since area for roads and parking may often require 20 percent of the site.

In planning residential areas, it is also helpful to be aware of the typical densities associated with various residential uses. Several more specific residential types and density ranges are also useful to distinguish. Figure 4-1 illustrates common housing types and associated

density ranges. Note, however, that housing developments having identical average densities can appear very different, depending on design.

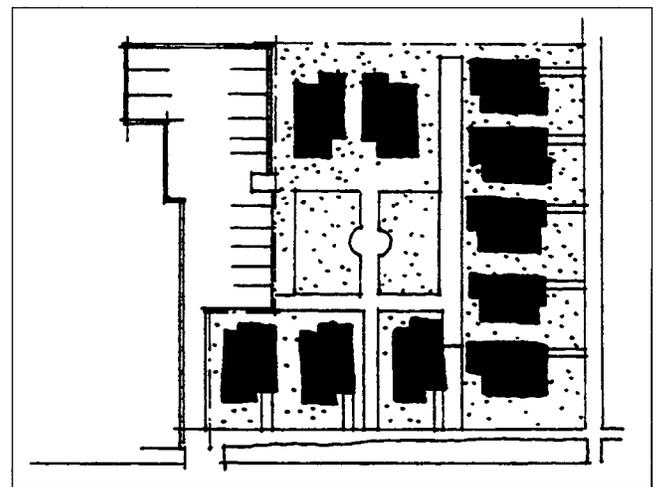
This chapter will offer examples of strategies for increasing density, including establishing minimum densities, providing for new, compatible housing types, allowing density transfer, removing obstacles to higher densities, and providing density incentives in exchange for amenities and superior design.

### HIGH-DENSITY COMPATIBLE HOUSING

In part, because of past experiences with poorly designed high-density housing, residents often fiercely resist traditional forms of multifamily development. Residents may fear that new, high-density development will be out of character with the neighborhood because of its size, character, or other design aspects. They may be concerned about maintenance and spillover parking, particularly if rental units are involved. Crowded conditions and racial turnover of the neighborhoods are also common concerns.

Because of the resistance of existing neighborhoods to accept high-density infill development, efforts to increase densities are mostly occurring on the urban fringe. But transit is less effective in serving these locations because of the relatively low concentration of jobs and commercial services. To have a major impact on transit ridership, communities will need to raise densities within existing residential areas.

To increase the acceptance of infill development, communities must blend new development with existing neighborhood features. But, Vancouver, B.C., studies of neighborhood acceptance, other factors may be even more important. Housing for families will be better accepted when it is accompanied by community amenities, such as a park, or if it is an improvement over previous uses, especially poorly maintained or nonconforming uses.



**Figure 4-3. Cottage Housing with Open Space**

## SINGLE-FAMILY NEIGHBORHOODS

Approximately 50 percent of land use in U.S. cities and towns is devoted to single-family housing. Many communities have comprehensive plan goals that emphasize the importance of maintaining strong single-family neighborhoods. In fact, a city of Seattle housing preference survey found that 38 percent of the surveyed population (drawn from King County and southern Snohomish County) responded that housing type (single family) was more important than any other characteristic (e.g., affordability, opportunity to own, neighborhood conditions, commute distance, etc.) in choosing their housing. As a result, high-density, single-family housing that can blend into lower-density single-family neighborhoods can play a key role in supporting transit while addressing housing preferences.

### Small-Lot Housing Development

Perhaps the most obvious approach to increasing density, particularly where there are larger tracts of vacant land, is to allow smaller lot sizes. An area with lots of 4,000 to 5,000 square feet can support some degree of regular transit service. Such lot sizes were not uncommon in most traditional towns and cities. Parcels even smaller than 5,000 square feet can accommodate single-family detached housing with a private yard area. As noted, the demographic trends point to smaller household size in the future. Small lots and houses, requiring less maintenance, make sense in view of this trend. Design approaches such as wide, shallow lots allow wider houses that appear larger from the street. Landscaping can do much to retain the privacy of smaller yards. Attached units also can be designed in a manner that gives the appearance of a large single-family home.

*The Residential I District is designed for established and developed residential neighborhoods in the Town of Winthrop, which consist almost exclusively of single-family homes. The intent of this district is to establish and preserve these residential neighborhoods for detached single-family residential dwellings without undue restrictions that would eliminate or limit a full range of home prices, styles, and sizes. Only single-family residential uses shall be allowed, except such accessory uses and home occupations as are consistent with single-family residential uses. The minimum lot size in the Residential I District shall be 5,000 square feet except that smaller existing platted lots may be developed with single-family residences as nonconforming lots.*

[Winthrop, Washington]

*Single-family detached residential district. The R-1 district shall have the following subdistricts on the basis of minimum lot area: R-1-4 (4,000 square feet) and R-1-7.5 (7,500 square feet).*

[Snoqualmie, Washington]

*The single-family zone (SF) is established for single-family residential dwellings with the goal of obtaining a density of eight dwelling units per acre. It is intended to prohibit the development of uses that are incompatible with the residential environment. This zoning designation may be permitted in an area designated as single-family residential in the comprehensive plan.*

*The dwelling unit density shall not be less than 5.6 units per acre [70 percent] of the goal of eight dwelling units per acre, excluding such areas as sensitive areas, greenbelt areas, and roadways. The lot area shall not be less than 4,500 square feet for any single-family dwelling.*

[Renton, Washington]

### Zero Lot Line Development

There are several general types of zero lot line provisions. One type allows attached housing with common wall construction. Rather than require sideyard setbacks, the interior walls of individual units are attached. A newer category of zero lot line development is designed to allow greater flexibility in lot layout for detached housing. This newer type of zero lot line provision allows a detached dwelling unit to locate on one of the side property lines in order to allow a larger and more useful side yard on the other side of the dwelling. When the whole block is developed in a zero lot line pattern, the separation between houses is greater than under the more traditional setback approach, and each unit gains one wider, more useful side yard. The

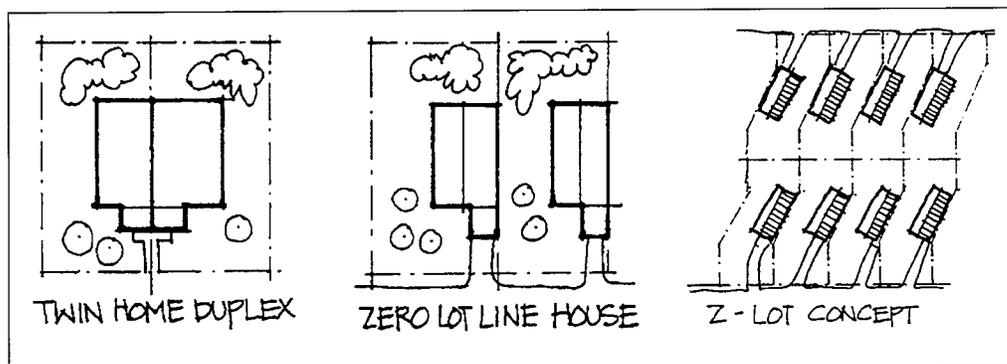


Figure 4-4. Variations on Zero Lot Line Development

traditional side yard setback, which may be as narrow as 5 or 10 feet, allows access for maintenance, and provides fire separation.

Alternately, instead of providing the larger side yard, the zero lot line pattern can be used to accommodate somewhat higher density while retaining standard separations between units. Variations on zero lot line development, such as angled z-lots and zipper lots, allow a layout that reduces the visual impact of garages and allow a smaller house to appear larger. Figures 4-2 and 4-3 illustrate these variations.

*Zero lot line. A zero lot line development is where houses in a development on a common street frontage are shifted to one*

side of their lot. This provides for greater usable yard space on each lot. These developments require that site planning for all of the house locations be done at the same time. Because the exact location of each house is predetermined, greater flexibility in site development standards are possible while ensuring that the single-dwelling character is maintained.

- 1) **Qualifying situations.** Zero lot line developments are allowed for houses in the R20 through R2.5 zones.
- 2) **Procedure.** Zero lot line developments are allowed by right. Restrictions that ensure the minimum distance between houses, and any required easements, must be recorded on the deeds of the applicable lots. Proof of such recording must be submitted as part of the building application.
- 3) **Building setbacks.** The side building setback on one side of the house may be reduced to zero. This reduction does not apply to the side building setback adjacent to a street, or to the side building setback adjacent to lots that are not part of the zero lot line project.
- 4) **Additional site development standards.**
  - a) **Distance between houses.** The minimum distance between all buildings in the development must be equal to twice the required side building setback standard of the base zone. A deed restriction must be recorded on the deed of each applicable lot to ensure the continued fulfillment of this setback.
  - b) **Eaves.** The eaves on the side of a house with a reduced setback may project a maximum of 18 inches over the adjacent property line. In this case, an easement for the eave projection must be recorded on the deed for the lot where the projection occurs.
  - c) **Maintenance.** An easement between the two property owners to allow for maintenance or repair of the house is required when the eaves or side wall of the house are closer than four feet to the adjacent property line. The easement on the adjacent property must be wide enough to allow four feet between the eaves or side wall and the edge of the easement.
  - d) **Privacy.** If the side wall of the house is on the property line, or within three feet of the property line, windows or other openings that allow for visibility into the side yard of the adjacent lot are not allowed. Windows that do not allow visibility into the side yard of the adjacent lot, such as a clerestory window or a translucent window, are allowed.

[Portland, Oregon]

### Cottage Housing

Cottage housing is another alternative housing type that has enjoyed exceptional market success in Seattle and on Bainbridge Island, Washington. Cottage housing consists of modest-sized single-family homes clustered around a common open space. Each unit typically has some private yard space. (See Figure 4-3.) The clustered arrangement allows a relatively high density while maintaining a highly livable single-family atmosphere. Seattle permits cottage houses at a density of 1,600 square feet per unit minimum within any multifamily

zone. Olympia, Washington, permits them at a density of 2,500 square feet per unit in its R 4-8 single-family zone, which normally allows four to eight units per acre, at 2,000 square feet per unit in its duplex zone with a normal maximum density of 12 units per acre, and at 1,600 square feet per unit in its multifamily zones.

Cottage housing shall comply with the following requirement:

- a) **Courtyard.** The development shall contain a courtyard or usable landscaped area owned in common by the owners of the dwellings.
- b) **Site Design.** Dwelling units shall be located on at least two sides of the courtyard or common area.
- c) **Number of units.** The development shall include no less than four and no more than 12 dwelling units per courtyard.
- d) **Dwelling size.** Single-story dwellings in cottage developments shall not exceed 800 square feet in size. Two-story structures shall not exceed 1,200 square feet in size.
- e) **Parking.** Parking shall be accommodated in a shared parking lot.
- f) **Covenants.** Covenants shall be recorded that establish common areas and preclude their conversion to another use.

[Olympia, Washington]

### Duplex or Corner Lot Duplex Provisions

A number of communities have developed a combined single-family / duplex zone category. Duplexes can be developed on single-family lots, essentially doubling the density in some cases, while maintaining a single-family appearance. One innovative duplex approach gaining currency is to permit duplexes on corner lots with unit entrances facing different streets, resulting in a single-family appearance.

The High Density Residential-Small Lot Use District (R-2S) is a residential zone classification permitting a higher density of population, encouraging small lot development conducive to energy conservation and to other factors contributing to the production of affordable housing, and including the establishment of duplex dwellings and providing for these one- and two-family residences a high degree of protection from hazards, objectionable influences, building congestion and lack of light, air, and privacy. Certain essential and compatible public service facilities and institutions are permitted in this district. . . . Minimum lot requirements are:

- a) minimum lot area for a detached one-family dwelling shall be 4,000 square feet;
- b) minimum lot width for a detached one-family dwelling shall be 42 feet;
- c) minimum lot area for a two-family dwelling shall be 7,000 square feet;
- d) minimum lot width for a two-family dwelling shall be 64 feet;
- e) minimum lot width for an attached one-family dwelling shall be 30 feet;
- f) minimum lot width for an attached one-family dwelling shall be 30 feet.

[Richland, Washington]

Duplexes and attached houses on corners. This provision allows the construction of new duplexes and attached houses in locations where their appearance and impact will be compatible with the surrounding houses. Duplexes and attached houses on corner lots can be designed so each unit is oriented towards a different street. This gives the structure the overall appearance of a house when viewed from either street.

- 1) *Qualifying situations.* This provision applies to corner lots in the R20 through R2.5 zones. This provision applies only to new development. Conversion of existing housing is prohibited under the regulations of this subsection.
- 2) *Density and lot size.* One extra dwelling unit is allowed. . . . For duplexes, the lot must comply with the minimum lot size standard for new lots in the base zone. For attached houses, the original lot before the division for the attached house project must comply with the minimum lot size standard for new lots in the base zone.
- 3) *Additional site development standards.* Each unit of the duplex or attached house must have its address, front door, driveway, and parking area or garage oriented to a separate street frontage.

[Portland, Oregon]

- 2) *Density.* The lot or attached housing project may have one dwelling unit more than is allowed by the base zone.
- 3) *Lot size.* Lots must comply with the lot size standard for new lots in the base zone except for lots in attached housing projects which may be reduced to accommodate the extra dwelling unit.
- 4) *Housing types allowed.* The lot may contain a duplex or be divided for attached houses. If the development is in the form of an attached house, the site development regulations for attached houses apply.
- 5) *Lot coverage.* For attached housing projects, the general lot coverage standard of the base zone applies to the entire project, rather than to each individual lot.

[Portland, Oregon]

### Accessory Housing

An accessory unit, also known as a granny flat or mother-in-law apartment, is a separate, self-contained dwelling unit, allowed in association with a single-family residence. Some cities require that the accessory unit be attached to the primary residence, while others allow a detached accessory unit to be located on the same lot. It is generally subordinate in size, location, and appearance to the primary residence. An accessory unit generally has its own outside entrance and always has a separate kitchen and bathroom.

Accessory apartments may be a particularly effective way to increase density in single-family areas. They allow underused space in existing residences to be used more fully, which fits well with the trend toward smaller household sizes. In some communities, this can be

particularly significant. Accessory units increase the supply of affordable housing at minimal cost to the public or private sector. They also can provide additional income and security to the homeowner. Of particular relevance to this chapter, accessory units are well-suited to the task of adding density to an area.

Accessory apartment ordinances are often geared at limiting the impacts of the additional units on surrounding residential areas. While it is important to ensure that accessory units blend into the neighborhood, ordinance restrictions should not be so severe as to discourage this type of housing

*Accessory dwelling units, when permitted as an allowable use, shall be subject to the following standards and criteria:*

- a) *Only one accessory dwelling shall be created per lot in single-family zones;*

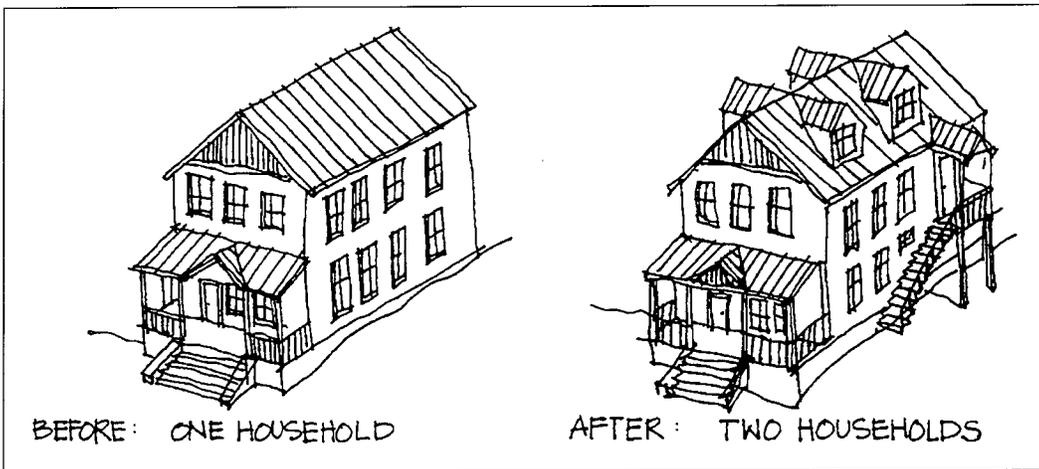


Figure 4-5. Increasing Density with Accessory Housing

### Density Transition

*Transitional sites.* The transitional site standards allow for a transition of development intensities between nonresidential and single-family zones. A stepped increase in density is allowed on single-family zoned lots that are adjacent to most commercial, employment, or industrial zones. The transition site provisions promote additional housing opportunities in a way that has minimal impact on built-up single-dwelling neighborhoods.

- 1) *Qualifying situations.* The transitional site regulations apply only to lots in the R20 through R2.5 zones that have a side lot line that abuts a lot in the C, E, or I zones, except for the CN and CO zones. The side lot line of the residential lot must abut the lot in a nonresidential zone for more than 50 percent of the residential length. If the lot is part of an attached housing project, the extra unit allowed by this subsection applies to the attached housing project, rather than just to the lot adjacent to the nonresidential zone.

- b) *An accessory dwelling unit may be constructed in either an existing or new single-family residence (principal unit);*
- c) *The accessory dwelling unit may be attached to, or detached from, the principal unit;*
- d) *Any additions to the principal unit, or a new detached accessory unit, shall not exceed the allowable lot coverage or encroach in existing setbacks;*
- e) *Either the primary residence or the accessory dwelling unit shall be owner-occupied. An application for certificate of zoning compliance for an accessory unit shall include a letter from the owner(s) stating that the owner(s) shall occupy one of the dwelling units on the premises, except for bona fide temporary absences for up to four months out of each year [some communities require signed affidavits or a recorded deed restriction];*
- f) *The accessory dwelling unit shall not be larger than 10 percent of the lot area or 600 square feet, whichever is smaller, and shall have no more than one bedroom [some communities provide a range of sizes (e.g., 300-800 square feet)];*
- g) *One off-street parking space, in addition to that which is required for the underlying zone, shall be provided. Parking spaces include garages, carports, driveways, or other off-street areas reserved for vehicles;*
- h) *The accessory dwelling unit shall be designed so that, to the degree reasonably feasible, the appearance of the principal unit and lot remain that of a single-family residence; [Editor's note: subsection (i) is omitted in the original.]*
- j) *The design and size of the accessory dwelling unit shall conform to the building, plumbing, electrical, mechanical, fire, health, and any other applicable codes. When there are practical difficulties involving carrying out the provisions of this section, the building official may grant modifications for individual cases;*
- k) *The living space of all accessory dwelling units established in the floodplain shall be elevated to one foot above the 100-year flood elevation.*

[Snoqualmie, Washington]

*Design. An ADU shall be designed to maintain the architectural design, style, appearance, and character of the main building as a single-family residence. If an ADU extends beyond the current footprint or existing height of the main building, such an addition must be consistent with the existing facade, roof pitch, siding, and windows. Only one entrance for the main building is permitted to be located in the front facade of the dwelling. If a separate outside entrance is necessary for an ADU, it must be located either off the rear or side of the main building. Such an entrance must not be visible from the same view of the building that encompasses the main entrance to the building and must provide a measure of visual privacy.*

[Tacoma, Washington]

### Planned Residential Developments

A number of communities have adopted planned residential development provisions to facilitate compact, transit-supportive development on large infill sites. This development option can provide the flexibility needed for difficult-to-develop, passed-over sites or simply

allow greater creativity in site design. Many ordinances also encourage neighborhood-scale commercial and civic uses to promote transit use and walking. The Renton and Snoqualmie, Washington, ordinances promote the continuation of the street grid, which facilitates transit service.

### MULTIFAMILY OPTIONS

Multifamily development is generally developed at densities that can support regular transit. Townhouses and duplexes are typically built at 8 to 12 units per acre or higher. Multifamily apartment buildings can reach 60 to 300 units per acre in urban areas. If a community chooses to provide for some areas of low-density (below seven to eight dwelling units per acre) single-family development, some areas of multifamily development will probably be necessary to achieve an average density that can support transit.

Higher-density multifamily developments are better accepted by a community when they are well designed and located. This section discusses several multifamily housing types that offer particular promise for successful integration into a community.

#### Townhouses

Townhouses typically have separate, individual entrances and private, ground-level yards directly accessible from the unit. Because of the common wall construction, they are generally energy and cost efficient. They allow more compact development than is possible with detached units. Features such as individual yard areas and top-to-bottom ownership provide similarities to single-family living. The units can be individually conveyed through a subdivision or short plat process. Townhouses can assume the traditional linear, rowhouse pattern common on the East Coast or in San Francisco or can assume a more varied configuration and design.

For a number of reasons, townhomes may be a particularly attractive option for increasing density in a community. Fifteen percent of respondents to a recent Seattle housing preference survey indicated that they preferred townhouses to either single-family houses or high-rise units. Approximately a third indicated that their housing choices are based more on a combination of factors (affordability, travel time, and security) than on the type of housing unit. Also, 28 percent of the respondents valued opportunity for home ownership above housing type or any other criteria. As single-family detached homes become less affordable, townhomes can offer an attractive alternative for home ownership. In areas like the western states where townhouses are less prevalent, they may have even greater potential as familiarity with their advantages increases.

*The purpose of this chapter is to:*

- 1) *Permit within Residential and Commercial Districts the development of townhouses which may be sold as individual lots and residences.*
- 2) *Permit townhouse structures built to standards that are designed to include amenities usually associated with*

conventional single-family detached housing, and to ensure their compatibility with the surrounding neighborhood.

- 3) Promote affordable housing, efficient use of land and energy, and the availability of a variety of housing types in a variety of locations.
- 4) Promote infill development on physically suitable lands in residential areas, without adversely affecting adjacent development.

[Olympia, Washington]

District	Min. Ave. Lot Area	Minimum Lot Size
R4 and R4-8	3,000 sq. ft.	2,000 sq. ft.
MS, R6-12	2,000 sq. ft.	1,600 sq. ft.
All other zone districts where permitted	1,600 sq. ft.	1,600 sq. ft.

[Olympia, Washington]

*Density Increase.* The density of the underlying zone governs unless a density increase is granted as provided in this chapter. The city may approve an increase in the dwelling unit density of up to:

- 1) 15 percent in the Low Density District;
- 2) 20 percent in the Moderate Density District;
- 3) 25 percent in the High Density District; rounded to the nearest whole number, provided that four of the five following environmental and recreational amenities are met. . . .

[Lacey, Washington  
(applied to townhouse development)]

*Density.* Each townhouse development shall be subject to density provisions contained in the underlying district. [The minimum and average lot sizes for each townhouse unit are shown in Table 4-1].

Each townhouse occupancy shall have recorded with the county auditor a perpetually binding common wall agreement as a covenant to each deed establishing the rights and obligations of each owner relative to the common party wall and foundation and providing for easements for purposes of maintenance and fire protection. Such agreement shall include provisions for upkeep and maintenance of all common areas, including landscape, stormwater facilities, utilities, play areas, or other facilities.

[Olympia, Washington]

A minimum of 200 square feet of private, usable yard space including decks and patios shall be provided for each townhouse dwelling unit.

[Pullman, Washington]

*Appearance.* The intent of these standards is to make each housing unit distinctive and to prevent garages and blank

walls from becoming the dominant front visual feature.

- a) The front facade of an attached house may not include more than 40 percent of garage wall area. . . .
- b) The roofs of each attached house must be distinct from the other through either separation of roof pitches or direction, or some other variation in roof design.

[Portland, Oregon (applied to attached housing development)]

### Multifamily Transition Areas

Some communities use medium-density multifamily development to provide a gradual transition or buffer between single-family development and more intense multifamily development. Such a transition or buffer is intended to address compatibility issues and neighborhood acceptance. Buffers that require significant land area to separate land uses may run counter to the objectives of compact, high-density, transit-supportive development. The Portland approach (cited above in the section on density transition) is noteworthy because it allows the added density in the single-family zones to achieve a transition.

*The portion of a property abutting a single-family district shall have a minimum setback of 20 feet and an average setback of 40 feet. The average setback shall be calculated along the full length of the property line, using the first 60 feet of the property depth.*

*Height limitation:*

- a. The maximum height of any structure within a multifamily transition area shall not exceed two stories or 25 feet at the minimum setback line. Building height may be increased one foot in height for each additional foot of horizontal setback from the minimum setback line, up to the maximum height limit for the zoning district.
- b. On lots of one acre or less and having more than one street frontage, the height limitation of this section shall apply along the longest street frontage. On any other street frontage, the height limitation of this section shall not apply.

*Landscaping*

- a. A minimum six-foot-high, sight-obscuring fence shall be provided where a development abuts a single-family district.

[Kent, Washington (applied as an overlay to multifamily buildings and development within 100 feet of a single-family district)]

One or more of the following impact mitigation techniques shall be required when a multifamily development is to be sited adjacent to a single-family development, a commercial development, or other incompatible uses:

- A) Buffers. Buffer areas shall be provided between single-family and multifamily developments or other incompatible uses. Buffers shall meet the requirements set forth in this section.
  - 1) Width and Setback. Buffer areas shall range or may meander from between 25 feet to 100 feet. The SPRC (site plan review committee) shall determine the specific setback based upon

*individual site conditions. The SPRC's determination shall include, but is not necessarily limited to, the following criteria: project size, neighborhood compatibility, zoning density of the proposal and surrounding developments, and the configuration of native vegetation on site, identified impacts of the project. . . .*

- B) *Height. Multifamily developments shall limit the height of units directly adjacent to a single-family neighborhood where the development site is five acres or larger or when the SPRC determines that height limitations are reasonable on smaller lots. Within the transition area, heights shall be restricted to those compatible with adjacent uses. This height restriction shall apply to that property adjacent to the required landscaping buffer. Beyond this area, heights may increase up to the maximum height and density permitted in the underlying zone. The SPRC may also consider height characteristics of surrounding uses if the height and architectural style will be compatible and harmonious with the existing area. When the SPRC determines that height restrictions may be modified or waived, other alternatives to limit impacts may include such approaches as clustering, landscaping buffers, berming and fencing, setbacks, and architectural design review.*
- C) *Clustering. On five acres or more, or where the SPRC determines it is a reasonable technique, clustering may be used to increase buffer areas and reduce nuisance to adjacent developments. For sites that are smaller than five acres, the viability of clustering may be determined by the SPRC to ensure applicability.*
- D) *Design Guidelines. The architectural style of multifamily developments shall be considered in order to achieve neighborhood compatibility and harmony. Proposed developments shall enhance and not detract from existing single-family developments. Therefore, proposed multifamily developments shall consider building materials, colors, bulk, scale, building modulation, and massing of structures. All proposed multifamily developments shall be reviewed under [Chapter \_\_] for multifamily design guidelines. This review shall be concurrent with this chapter for transitional requirements.*

**[Lacey, Washington]**

### **Well-Designed and Well-Located High-Density Multifamily Development**

Most cities and towns have zoning provisions that allow multifamily apartment buildings. Therefore, it is unnecessary to provide extensive examples of code provisions for these types of uses. However, many communities may need to revise their codes to ensure that these uses are successfully integrated into the community. Site plan review and architectural review procedures that regulate landscaping, open space, building appearance, parking area screening, and street configurations can help improve the fit between multifamily and adjacent lower-intensity development. A number of examples of these types of provisions have been provided in Chapter 1 of this report and in the section on compatibility in Chapter 3 of this report.

It is also important that a community ensure that enough land is zoned for multifamily use to achieve the density needed to support transit. Land surrounding commercial and employment centers, in designated mixed-use areas, and near transit stations along major transit corridors can be zoned for this purpose.

Vancouver, British Columbia, is also encouraging the use of surplus and abandoned industrial land for residential development. That city has converted former riverfront industrial property into residential development. In these situations, an environmental assessment of the sites would be necessary to ensure there are no lingering health hazards.

### **ESTABLISHING MINIMUM DENSITIES**

In most metropolitan areas, residential development is occurring at densities far lower than what is actually permitted. Simply zoning land for higher densities does not ensure that intended densities will be realized. Developers generally respond to market demand for certain housing types and densities.

Additional measures may be necessary to achieve desired densities. Most communities have established maximum permitted densities (or minimum lot sizes) to address environmental concerns and to avoid overburdening public facilities and services. The most direct method to achieve transit-supportive densities is to set forth a range of both minimum and maximum densities. Allowing a range of densities will provide flexibility in design and for market responsiveness.

Renton, Washington, one of only a handful of cities that uses minimum density requirements, has been applying them since 1993. Shortly after they were adopted, the city realized that its short plat and subdivision standards were countering the effectiveness of the city's minimum density provisions. The minimum requirements, by requiring more lots, were pushing more developments above the four-lot threshold for short plat subdivisions. In response, the city moved to raise the short plat threshold to nine lots to allow small developers to comply with minimum density requirements without forcing them into the subdivision review process. Renton has now revised its street standards to allow narrower streets, which allow smaller lots.

In 1995, it made several modifications to the ordinance in response to recurring problems. First, the city has found it necessary to exempt lots under one-half acre from minimum density provisions and, at the same time, make it easier for small infill lots to split and develop at a higher density. The city also realized that it should have revised its subdivision regulations when it implemented minimum density requirements. Below are Renton's revised requirements for high-density multifamily zones.

*D. Development Standards. The following development standards shall apply in the R-8 zone.*

- 1) *Density:*
  - a) *Maximum density: For the subdivision and/or development of lots greater than one-half gross*

acre in size, as of March 1, 1995, net density shall not exceed eight units per acre. For the subdivision, short plat, and/or development of lots one-half gross acre in size or less, as of March 1, 1995, net density shall not exceed 9.7 units per acre.

- b) *Minimum Density: Net density shall not be less than five units per acre for all subdivisions, short plats and/or development of lots.*
- 2) *Minimum Lot Size: The lot area shall not be less than 4,500 square feet.*

#### E. Exceptions

- 1) *Preexisting Legal Lots: Nothing herein shall be determined to prohibit the construction of a single dwelling and its accessory buildings on a preexisting legal lot, established as of March 1, 1995, provided that all setback, lot coverage, height limits, and parking requirements for this zone can be satisfied.*
- 2) *Minimum Density:*
  - a) *The minimum density requirements shall not apply to the subdivision, short plat, and/or development on a legal lot  $\Omega$  gross acre or less in size as of March 1, 1995.*
  - b) *Phasing, shadow platting, or land reserves may be used to satisfy the minimum density requirements if the applicant can demonstrate that these techniques would allow the eventual satisfaction of minimum density requirements through future development. The applicant must demonstrate that the current development would not preclude the provision of adequate access and infrastructure to future development.*
  - c) *In the event the applicant can show that minimum density cannot be achieved due to lot configuration, lack of access or physical constraints, minimum density requirements may be reduced by the reviewing official.*
  - d) *Minimum density requirements shall not apply to the renovation or conversion of an existing structure.*

**[Renton, Washington]**

Renton uses similar development density regulations for other high-density zones. For instance, in its R-10 zone, a maximum net density of 10 units per acre and a minimum of seven units per acre is applied. The other provisions and exceptions are the same. In its R-24 zone, the maximum is 24 units per acre, the minimum shall not be less than two-thirds of the maximum allowable units. For its RM-U multifamily zone, the permitted density range is 75 minimum to 100 maximum dwelling units, with the potential for 150 units with design review. For its RM-C center zone, the allowable range is 10 to 20 units per acre, with five additional units possible for affordable housing provision. For Renton's RM-N mixed-use neighborhood center zone, 10 to 12 units per acre are allowed, with a potential for three additional units for affordable housing provision.

*In the RF through R2.5 zones [all single-family zones], the minimum density for land divisions must be at least 90*

*percent of the maximum density allowed by [Title \_\_\_\_]. This minimum density is not required where it is infeasible due to constraints such as land hazards, topography, solar or tree preservation requirements, access limitation, or similar constraints.*

**[Portland, Oregon]**

*Residential densities within Neighborhood TOD [transit-oriented development] sites must be a minimum of 7 units per residential gross acre, an average of at least 12 units per residential gross acre, and a maximum of 30 units per residential gross acre. Residential densities within an Urban TOD must be a minimum of 7 units per residential gross acre, an average of at least 15 units per residential gross acre, and a maximum of 50 units per residential gross acre.*

**[Sacramento County, California]**

## TOOLS FOR MAINTAINING AVERAGE DENSITIES IN CRITICAL AREAS

### Critical Areas Density Transfer

Environmental regulations can lead to developments that are less dense than what is permitted by zoning. Sensitive area overlay zones require that areas such as floodplains, wetlands, and hillsides be subtracted from the total area that may otherwise be developed. In particular, when environmentally constrained lands are subtracted from the total land area that may be used for calculating allowed density, density will be reduced. Some communities have adopted provisions that allow a developer to transfer density to an unconstrained portion of the site in an attempt to maintain average densities while continuing to protect environmentally sensitive areas. However, the remaining portion of the site may not be able to accommodate all of the density that would normally be spread over a larger area. To address this concern, some communities have developed a sliding scale approach that allows a decreasing portion of the density to be transferred as the percentage of constrained area increases.

### Cluster Development

Where clustering is permitted, development can be clustered on unconstrained portions of a site. As a result, average densities can be maintained while avoiding disruption of many types of environmentally sensitive areas. Several examples of planned, clustered developments are described in the section on single-family development options. One additional example is provided here.

- a) *Mandatory Clustering. The Director or Hearing Examiner may require that the housing units allowed for a site be clustered on a portion of the site in order to protect groundwater used as a public water source (e.g., wellhead protection areas), to enable retention of windfirm trees (which are appropriate to the site and designated for retention, consistent with Chapter 16.60, Tree Protection and Replacement, OMC), to preserve Significant Wildlife Habitat identified on Map 2-4 of the Comprehensive Plan, to accommodate urban trails*

identified on Map 7-1 of the Comprehensive Plan, to preserve scenic vistas pursuant to Sections 18.20.070, View Preservation and 18.50.100, Scenic Vistas, or to enable creation of buffers between incompatible uses (also see Chapter 18.36, Landscaping and Screening). The Director or Hearing Examiner may allow up to twenty (20) percent reduction in lot dimensions, sizes and setback requirements, consistent with the provisions of the Uniform Building Code, to facilitate clustering of the permitted number of dwelling units on the site. The required clustering shall not result in fewer lots than would otherwise be permitted on the site (at the minimum density specified in Table 4.04), without the written authorization of the applicant.

- b) *Optional clustering. Applicants for housing projects may request up to a twenty (20) percent reduction in lot sizes, dimensions, and building setback requirements in order to cluster housing and retain land serving the purposes listed in a. above; to avoid development on slopes greater than twenty (20) percent; or to preserve natural site features such as rock outcrops; or otherwise enable land to be made available for public or private open space. The Director or Hearing Examiner, as applicable, may grant such requests if s/he determines that the development would not have a significant adverse impact on surrounding land uses.*

**[Olympia, Washington]**

#### INCENTIVE APPROACHES

Incentives—in the form of density bonuses, impact fee waivers or reductions, or fast-track permitting—can be offered to developers in exchange for desired densities.

*Density Bonuses. a) A 20 percent density bonus shall be granted for zero lot line and townhouse projects on sites of five or more acres in the R4-8 and R6-12 districts. Cottage housing projects shall receive a 20 percent density bonus wherever they are permitted.*

**[Olympia, Washington,  
(available in any residential zone)]**

*Any Mixed-Use Development shall be entitled to an Expedited Development Review Process. The Expedited Development Review Process entitles an applicant to be placed on a priority list, established by the Director. Expedited review is on a first-come, first-served basis of priority applications. The applicant must submit a technically complete application in order to be placed on the priority list for expedited development review.*

**[Vancouver, Washington]**

**Table 4-2. Clark County Density Bonus: Maximum Housing Densities**

Residential:	125% of maximum density requirement
Non-residential:	Not applicable
Mixed Use (residential and nonresidential):	Determine bonus separately for each use according to this table

The city of Bellevue’s system for levying traffic impact fees is also incentive based. Fees are based on the location and type of development and its impacts. The city is divided into more than a dozen subareas, and fees vary among the subareas, depending on whether alternative modes are available. For example, impact fees for development in downtown Bellevue are lower relative to other parts of the city because of the high level of transit service. In some cases, the difference in fees between areas can be 100 percent (e.g., \$3 per square foot vs. \$6 per square foot). This has the effect of encouraging development in some areas and discouraging it in others.

*Density Bonus. Any development within [the transit overlay district] shall receive a density bonus equal to the percentage shown in [Table 4-2] if five or more of the actions in [Table 4-3] are implemented. These bonuses are in addition to underlying zoning bonuses if the required criteria are met.*

**[Clark County, Washington]**

*Traffic Impact Fee (TIF) Reduction. In recognition of the potential reduction in vehicle trip demand that may result from the implementation of transportation demand management measures, a reduction in the TIF may be granted pursuant to this section with the implementation and maintenance of the corresponding action in [Table 4-3]. Development within Tier I of the Transit Combining District may be entitled to a reduction in the amount of transportation impact fees assessed against the development upon implementation of the corresponding actions in [Table 4-3] upon staff review and approval. Any development within Tier II of the Transit Combining District shall be entitled to this incentive provided that the requirements of [subsections \_\_\_ and \_\_\_] are met. The maximum reductions identified in [Table 4-2] are based on nationally accepted relationships between transportation demand management measures and traffic generation. For action(s) that require regular maintenance, as noted in [Table 4-3], the TIF reduction granted shall be revoked and shall become due if the regular maintenance is discontinued in whole or in part.*

**[Clark County, Washington]**

**Table 4-3. Traffic Impact Fee Reduction Incentives**

Action	TIF Reduction
Development within the Transit Overlay District*	2%
Construction of on-site but off road internal walk/bike network	12%
Construction of direct walkway connections to the nearest arterial for non-abutting developments	3%
Commercial development which would be occupied by an employer subject to, and complying with, section ____	4%
Direct walk/bikeway connection to destination activity (such as a commercial /retail facility, park, or school) if residential development, or to origin activity (such as a residential area) if commercial/retail facility	2%
Installation of on-site sheltered bus-stop (with current or planned service or bus stop within 1/4 mile of site with adequate walkways if approved by C-TRAN)	1%
Installation of one secure bike parking space per 10 vehicular parking stalls	1%
Connection to existing or future regional bike trail (either 1% directly, or by existing, safe access)	1%
Voluntary compliance with Commute Trip Reduction Ordinance by non-regulated employers	5%
Designation of ten (10) percent of all non-residential parking as carpool/vanpool parking facilities if located in a manner maximizing accessibility subject to ADA requirements**	1%
Total if all strategies were implemented	22%
<p>*Automatic reduction for developing within Transit Overlay District and compliance with the provisions of this Ordinance.  **Requires regular maintenance.</p>	



## Appendix A. Citations for Ordinance Provisions

### A Note About These Ordinance Excerpts

Most of the ordinance provisions that appear in this report were excerpted from interim or adopted zoning ordinances or land development regulations. Every attempt has been made to provide the most accurate citation for each excerpt. The exact wording of some of the draft excerpts may be different from what was ultimately adopted. Several of the excerpts in this report were taken from *Recommendations for Pedestrian, Bicycle and Transit Friendly Development Ordinances*, published by the Transportation Planning Rule Working Group of the Oregon Chapter of APA (February 1993). Excerpts of existing ordinances that appeared in that publication are cited to that publication with the municipality of origin included on this list but not in the text. Ordinance recommendations that were drafted by the Transportation Planning Rule Working Group and that appear in the Oregon APA publication are cited as such.

### Chapter 1. Transit- and Pedestrian-Friendly Site Design

#### *Bellevue*

Source: Bellevue Land Use Code, November 1989

6, midblock connections (applied in the Perimeter Design District); Sec. 20.25A.090(F)

#### *Cambridge, Mass.*

Source: Cambridge Zoning Code

9, curb cuts; Article 6, Sec. 6.43.3. Off-street parking and loading requirements.

#### *Charlotte-Mecklenberg County, N.C.*

Source: Uptown Mixed Use District Ordinance and Urban Design Guidelines

11, microclimatic impacts; Sec. 3053.6(4)

12, street walls; Sec. 3053.6(1)(1)

#### *Clark County, Washington*

Source: Clark County Code, Title 18 "Zoning"; January 1995

3, on-site pedestrian circulation; Mixed-use district (MX) Sec. 18.320.070 (L)(1); January 1995

8, parking lot lighting; Mixed-use district (MX) Sec. 18.320.070 (L)(5); January 1995

11, locating transit stops

13, landscaping in campus office park zones; Sec. 18.314A.080(H); January 1995

13, street trees; transit overlay district

#### *Eugene, Ore.*

Source: T.R.I.P. Transportation Rule Implementation Project: Code Amendments; December 1993

4, decision criterion for major partition subdivisions; Sec.9.030(4)(b)(5) of the pedestrian and bicycle access section.

7, future street extensions in subdivisions; Sec. 9.045(6) of the pedestrian and bicycle access section.

#### *Metro-proposed language for King Co.*

Source: King County Code Title 21A, "Amendments to Chapter 21A.14 Development Standards—Design Requirements."

4, on site circulation for pedestrians; Sec. 21A.18.100(B)(1-2)

7, access point for pedestrians; Sec. 21A.18.100(A)(1)

8, pedestrian access

9, access for mobility impaired, texture, grade changes

#### *Kirkland, Washington*

Source: Kirkland Zoning Code, Ordinance No. 3316 adopted by the Kirkland City Council; January 5, 1993.

8, pedestrian pathways; Sec. 50.65 (b)(3) "Design Regulations, Central Business District."

13, pedestrian-oriented streets; Sec. 50.65

#### *Anton Neessen Model Ordinance*

Source: *Visions for a New American Dream*, APA, 1995.

4, bikeways required to link open spaces; Sec. 17(4)

6, rectilinear blocks; Sec. 12(1)

8, sidewalk widths; Sec. 17(2)

#### *Montgomery Co. Md.*

Source: Montgomery County Code, Division 59-c-5 "Industrial Zones," no date.

10, clustering buildings

#### *Mountain View, Calif.*

Source: Mountain View Development Code

12, breaking up monotonous facades

*New Jersey Transit*

Source: Planning for Transit-Sensitive Communities, Appendix B, Model Site Plan Approval Ordinance for Station Area Overlay Zone  
6, pedestrian easements, Sec. 12.4.4(c)  
8, pedestrian surfaces, Sec. 12.4.4.(d)  
10, building setback, Sec. 12.3.3  
13, street trees, Sec. 12.6.2

*Olympia, Wash.*

Source: Olympia Municipal Code, Title 18, "Zoning."  
10, street wall setbacks; Sec. 18.39.040A 2 (a)i & ii  
11, pedestrian plazas; Sec. 18.39.040(B)(6)(a)  
11, seating in pedestrian plazas; Sec. 18.39.040(B)(5)(a-b)  
12, design review in historic districts; Olympia Unified Development Code Ch. 18.20 "City-wide Design Guidelines, Sec. 18.20.100(2)(c)

*Ontario Ministry of Transportation*

Source: Transit-Supportive Land Use Planning Guidelines, April 1992  
4, proximity of jobs, residences to transit stops; Guideline 3.4.1  
4, location of sidewalks; Guideline 3.4.1  
6, mid-block connections; Guideline 3.3.3  
9, road widths to accommodate sidewalks, Guideline 3.5.3  
11, amenities to improve the microclimate; Guideline 3.5.2

*Oregon Chapter of APA, Transportation Rule Working Group*

Source: "Recommendations for Pedestrian, Bicycle and Transit Friendly Development Ordinances." Draft, February 1993.  
4, sidewalks required on street frontage; Transportation Planning Rule ordinance recommendation  
4, sidewalks required on both sides of streets; from Portland  
5, culs-de-sac (Alternative 1); Transportation Planning Rule ordinance recommendation  
5, culs-de-sac (Alternative 2); from Portland Tri-Met TSD, A-36  
7, stairs or ramps to make direct routes; Transportation Planning Rule ordinance recommendation  
9, planting strips between sidewalk and curb; Transportation Planning Rule ordinance recommendation  
9, landscaping obstructing sidewalks; from Washington Co., Ore.  
11, location of transit stops; from Salem-Keizer, Ore.

*Redmond, Wash.*

Source: Redmond Development Code  
9, access ways for pedestrians and bikes; Sec. 20C.20.242(90)  
9, design grade of walkways; Sec. 20C.30.020(30)(a)(8)  
10, pedestrian access to primary building; Sec. 20C.10.230(25)(g)(h)  
11, pedestrian-oriented districts; Sec. 20C.30.050(15)(b)(1)  
12, street level windows; Sec. 20C.30.050(15)(c)(11)

*Sacramento County, Calif.*

Source: Transit-Oriented Development Design Guidelines, Final Public Review Draft, September 1990.  
4, connections to transit stop: Guideline 9B  
4, sidewalk widths; Guideline 9C  
10, commercial building entries; Guideline 7B  
10, building setbacks; Guideline 7E

*Salem-Keizer, Ore.*

Source: Oregon Chapter of APA  
19, location of transit stops; p. 19, Oregon Chapter of APA

*San Francisco*

Source: Sun, Wind, and Pedestrian Comfort: A Study of Toronto's Central Area, "Appendix II, "Summary of Existing Legislation in Toronto and other North American Cities." CityPlan '91, City of Toronto Planning and Development Department.  
11, wind speeds

*Santa Monica, Calif.*

Source: Santa Monica Municipal Code  
12, ground floor street frontage Sec. 9.04.08.16.070(b)

*Toronto*

Source: A Walking Guide for Planning and Safer Urban Environments, City of Toronto Planning and Development Department, 1992.  
8, pedestrian underpasses

*Vancouver, Wash.*

Source: Ordinance No. M-3165 providing for the adoption of a transit overlay district.  
8, walls, fences, hedges; Sec. 20.95.050  
10, ground floor pedestrian entrances; Sec. 20.95.050(D)(3)  
12, blank walls

## Chapter 2. Parking

*Charlotte-Mecklenburg County, N.C.*

Source: Uptown Mixed Use District Ordinance and Urban Design Guidelines  
25, screening parking structures; Sec. 3053.6(2)

*Cambridge, Mass.*

Source: Cambridge Zoning Code  
22, driveway sight lines; Sec. 6.43.4(c)  
23, parking lot landscaping; Sec. 6.48.1

*Eugene, Ore.*

Source: T.R.I.P Transportation Rule Implementation Project: Code Amendments as adopted 12/93 by the Eugene City Council.  
16, dedicated van pool/car pool parking; Sec. 9.584(c)  
22, pedestrian circulation in parking lots; varied paving materials; Sec. 9.598(1) part  
22, lighting for pedestrians; Sec. 9.598(1)(e)  
24, 41 parking lot landscaping and planting strips; Sec. 9.589(c)(1)&(3)  
26, location of bike parking; Sec. 9.585(c) part  
26, weather protection for bike parking facilities; Sec. 9.585(b)  
26, bike parking space size; Sec. 9.585(a)

*Gresham, Ore.*

Source: Gresham Civic Neighborhood Plan District  
16, location of off-street parking; Sec. 2.0671(B)(3)(a)  
22, on-site pedestrian walkways; Sec. 2.0671 Off-street Parking (B)(5)(e)(4)(a-b)

*Metro-proposed amendments for King Co.*

Source: King County Code, Draft Amendments  
17, rideshare parking requirements; Sec. 21A.18.090A  
17, 18 reduced parking requirements; Sec. 21A.18.090B  
18, mixed use parking requirements; Sec. 21A.14.140  
19, shared parking; Sec. 21A.18.040  
22, pedestrian walkways across parking lots; Sec. 21A.18.100C (3)  
26, flexible bike rack parking provisions; Sec. 21A.18.030E(1)(a)  
26, weather protection for bike parking facilities; Sec. 21A.18.030 E(6)

*Olympia, Wash.*

Source: Olympia Unified Development Code adopted February 24, 1995  
17, HOV parking spaces; Sec. 18.38.200(3)  
19, shared and combined parking; Sec. 18.38.180(b)(1-2)

*Oregon Chapter of APA*

Source: "Recommendations for Pedestrian, Bicycle and Transit Friendly Development Ordinances." Draft, February 1993.  
16, parking between buildings and the street; from Salem-Keizer, Ore.  
18, parking reduction for transit amenities; Transportation Planning Rule ordinance recommendation  
21, redevelopment of unused parking areas; Transportation Planning Rule ordinance recommendation

*Portland, Ore.*

Source: Portland Zoning Code, Title 33, "Planning and Zoning"  
16, parking between buildings and the street; Sec. 33.266.130(D)  
23, parking lot landscaping; Sec. 33.266.130(G)(1)  
26, bicycle parking; Sec. 33.266.220(B)(C)

*Poulsbo*

Source: Poulsbo Municipal Code  
18, credit for decrease in required vehicle parking; Sec. 18.52.050(2)(B)  
22, width of walkways adjacent to overhanging parked cars; Sec. 18.52.050(18)  
22, parking lot lighting; Sec. 18.52.050(9)

*Redmond, Wash.*

Source: Redmond Development Code adopted December 1993  
18, compact car parking; Sec. 20C.20.150(15)(o)  
21, fee-in-lieu-of-parking option; Sec. 20C.20.150(20)(b)  
21, walkways within parking lots; Sec. 20C.20.150(15)(i-j)

*Sacramento*

Sources: Sacramento Zoning Ordinance, Section 6, "Off-Street Parking and Transportation Systems Management for New Non-Residential Development."  
18, parking reduction as a trip reduction measure; Sec. 6F(1)  
18, compact car parking; Sec. 6C(2)b  
20, special permit required for new parking facility; Sec. 6D(2)  
21, flexible parking arrangements; Sec. 6A(2)

*Sacramento County, Calif.*

Source: Transit-Oriented Development Design Guidelines, Final Public Review Draft, September 1990.  
21, surface parking redevelopment, Guideline 11E.  
22, size of surface lots; Guideline 11B.

*Salt Lake City, Utah*

Source: Salt Lake City Zoning Ordinance  
17, carpool parking requirements, Sec. 22-4.2(a)(b)  
19, credit for on-street parking, Sec. 22-4.4(a-c)  
20, maximum parking requirements, Sec. 22-4.3(4)(5)

*San Bernardino, Calif.*

Source: City of San Bernardino Development Code  
16, parking orientation, Ch. 19.19, Sec. 19.19.030(2) Main Street Overlay District  
24, parking lot perimeter landscaping, Ch. 19.24, Sec. 19.24.060(6) Off-Street Parking Standards

*San Diego*

Source: San Diego Development Regulations, Ch. 14, adopted June 30, 1994  
17, alley parking; Sec. 141.1013(b)  
18, compact car spaces; Sec. 141.1021(c)  
22, length of parking spaces and overhang; Sec. 141.1031(f)  
25, architecture of parking structures; Sec. 141.1032(a)  
26, location of bike parking; Sec. 141.1027(c)  
26, bike locking requirements on bike racks; Sec. 141.1027(a)

*Tucson*

Source: Tucson Zoning Code, Ordinance No. 7858, Sec. 15, Article IV, Motor Vehicle and Bicycle Parking Requirements, adopted July 6, 1992.  
18, mixed use parking requirements; Sec. 23-604  
19, credit for on-street parking; Sec. 23-606(A)(5)(c)

*Vancouver, Wash.*

Sources: Vancouver Zoning Code  
16, parking between buildings and the street; Sec. 29.95.050 H(6)  
21, parking reduction for use expansion; Sec. 29.95.050  
22, parking lot landscaping; Sec. 29.95.050  
25, retail uses required on ground floor of parking structures; Sec. 29.95.050 H(8)

## **Chapter 3. Mixed-Use Development**

*Bellevue*

Source: Bellevue Land Use Code  
28, purpose statement for central business district; Sec. 20.10.370(A)  
29, Professional Office Districts; Sec. 20.10.240  
29, Office and Limited Business Districts; Sec. 20.10.280  
34, Perimeter Design District; Sec. 20.25A.090(E)(6)

*Bothell*

Source: Bothell Municipal Code, enacted December 1993  
29, permitted uses applied in an office transitional zone; Sec. 17.17.020  
33, uses prohibited in mixed use zones; Sec. 17.23.020(B)  
34, performance standards for prohibited uses; Sec. 17.23.020(A)

*Burlington, Wash.*

Source: Burlington Municipal Code, Title 17, "Zoning," 1992, (Ord. No. 1206)  
28, purpose statement for a central business district; Sec. 17.33.010

*Cambridge, Mass.*

Source: Cambridge Zoning Ordinance, Art. 14.00, "Mixed Use Development District: Cambridge Center."  
35, conditional use permits for fast food and auto related businesses; Sec. 14.21.3(3) & (6)  
38, permitted uses in the Cambridge Center District; Sec. 14.21 and 14.21.3

*Clark Co., Wash.* Source: Clark County Code, Title 18 "Zoning" January 1995  
36, required mix of uses; Ch. 18.320 "Mixed Use District" (MX) Sec. 18.320.060  
37, density bonuses for plazas, courtyard, etc.; Ch. 18.320, Sec. 18.320.080 (B)  
38, street trees permitted; Ch. 18.320, Sec. 18.320.060 (E)(1)(b)  
38, outdoor business activities permitted; Ch. 18.320, Sec. 18.320.070 (G)

*Dupont, Washington*

Source: 1985 Dupont Comprehensive Plan and Land Use Zoning Code  
30, first floor street frontage requirements in all commercial zones; Sec. 070.020.000  
34, soundproofing business and residential portions of buildings; Sec. 070.030.000  
37, density bonuses for increased FAR; Sec. 090.030.020 (portion)  
39, phased development; Sec. 040.030.000

*Hillsboro, Ore.*

Sources: PC Resolution 645 approving ZO A 3-93: Station Area Interim Protection Ordinance (SAIPO) March 9, 1994  
31, purpose of the Station Area Interim Protection District; Sec. 135  
36, mixed use development in the Station Area Interim Protection District; Sec. 135(9)

*Lynnwood, Wash.*

Source: City of Lynnwood Ordinance No. 1947; May 11, 1993  
33, screening/buffering adjacent residential areas; Sec. 9 (20.37.500)  
35, allowable uses in the mixed use, transit supportive/business zone; Sec. 4(20.37.030A)

*Metro-proposed language for King County*

Source: King County Zoning Code, Title 21A, proposed ordinance no. 91-729; 1993  
29, purpose statement of community business zone; Sec. 21A.04.100  
38, sidewalk widths within pedestrian overlay districts; Sec. 21A. 38.050(B)(5)

*Mill Creek, Wash.*

Source: Mill Creek Development Code, Ch. 17.20 "BP—Business and Industrial Park." (Ord. number 93-299 S5; 1993)  
32, purpose of the Business and Industrial Park (BP) zone; Sec. 17.20.005  
36, uses permitted in a business and industrial park; Sec. 17.20.010(H)

*Montgomery Co., Md.*

Sources: Montgomery Co. Code, Division 59-C-8, "Transit Station Development Area Zones."  
33, TS-R zone; Sec. 59-C-8.22 TS-M zone; 59-C-8.23  
37, incidental commercial uses in a high-density residential zone

*Olympia, Wash.*

Sources: Olympia Municipal Code Ch. 18.19 RMU Residential Mixed Use district; January 1995  
31, purpose and intent of the mixed use district; Sec. 18.19.010  
33, uses prohibited in mixed use zones; Sec. 18.19.040  
36, percent of residential development in a mixed use development; Sec. 18.19.050(c)(1-2)

*Portland, Ore.*

Sources: Portland Zoning Code, Ch. 33.130 (Commercial Zones), Ordinance No. 167186; December 31, 1993  
28, Neighborhood Commercial; Sec. 33.130.030(A)  
28, size limits on small businesses; Sec. 33.130.100(B)(2)  
34, Portland setback standards; Sec. 33.130-4 (Table 3-1)  
34, landscaping required between commercial residential zones; Sec. 33.130.225  
36, conversion to nonresidential uses; Sec. 33.130.253(G)  
38, landscaping requirements that may include plazas, play areas, etc.; Sec. 33.130.225(B)

*Sacramento County, Calif.*

Source: Transit-Oriented Development Design Guidelines, Final Public Review Draft, September 1990.  
30, upper story uses on retail sites; Guideline 5D

*San Diego*

Source: Ch. 13 (Zones) Division 5: Commercial Base Zones; June 30, 1994  
36, prohibiting residential on the ground floor; Sec. 131.0540(c)  
37, child care facility bonus; Sec. 131.0546(b)

*Seattle*

Source: Seattle Municipal Code; December 12, 1994  
30, ground floor commercial requirements; Sec. 23.47.008(B)  
39, street front facade must be above grade; entrances must be at street level  
39, limiting street level in NC2/R and NC3/R to noncommercial use; Sec. 23.47.008(B)

*Snoqualmie, Wash.*

Source: Snoqualmie Draft Zoning Code; April 4, 1995  
31, purpose statements of the MU district; Sec. 17.30.020(A)

*Uniontown, Wash.*

Source: Uniontown Municipal Code, Ch. 17.16 "Commercial Districts"  
30, first floor street frontage requirements in all commercial zones; Sec. 17.16.020(F)

*Vancouver, Wash.*

Sources: Vancouver Zoning Ordinance, Division 5, "Business and Commercial Districts"; Ch. 20.21 "Commercial Districts"; June 1995  
28, neighborhood commercial district; Sec. 20.21.110  
29, community commercial district; Sec. 20.21.120  
30, mixed use zone ground floor commercial requirements; Sec. 20.21.306(E)  
35, building scale transition; Sec. 20.21.305(B)(1-7)  
57, floating district; Sec. 20.21.160

*Winthrop, Wash.*

Source: Winthrop Ordinance No. 372 (Zoning); July 5, 1990  
29, purpose statement for central business district; Sec. VI "Business (Commercial) Zone Districts" 2A

## **Chapter 4. Increasing Density to Support Transit**

*Clark County, Wash.*

Source: Clark County Code, Title 18, "Zoning," Ch. 18.430 "Transit Combining District (T)"; Ord. No. 1994-12-53); January 1995  
50, density bonuses in transit overlay district; Sec. 18.430.050(B)  
50, traffic impact fee reduction; Sec. 18.430.050(A)

*Kent, Wash.*

Source: Kent Municipal Code, Ord. No. 2404; May 3, 1983  
47, multifamily development near single-family districts; Sec. 15.08.215(B)(1)(b)

*Lacey, Wash.*

Source: Lacey Municipal Code  
47, townhouse development density increase; Lacey Municipal Code, Ord. No. 691, sec. 32 (part); Ch. 16.61.040(B); June 1994  
48, impact mitigation for multifamily development; Lacey Municipal Code, Ord. No. 945 (part); ch. 16.20 (A part)(B-D); 1994

*Olympia, Wash.*

Source: Olympia Unified Development Code, Ch. 18.04; December 16, 1994  
44, cottage housing  
47, draft purpose statement for townhouse provisions; Sec. 18.64.020  
50, mandatory and optional clustering; Sec. 18.04.080(6)(a-b)  
50, density bonuses in residential zones; Sec. 18.04

*Portland, Ore.*

Source: Portland Zoning Code, Title 33 "Planning and Zoning"  
44, zero lot line; Sec. 33.110.240(J)  
45, duplexes and attached housing on corner lots; Sec. 33.110.240(F)  
45, transition sites; Sec. 33.110.240(I)  
47, appearance of attached housing developments; Sec. 33.120.270(C)(6)  
49, minimum density in single family zones; Sec. 33.110.205

*Pullman, Wash.*

Source: Pullman Municipal Code (Ordinance No. 97-9, Sec. 1; 1987)  
47, RT district (townhouse developments); Sec. 17.108.040(1)

Renton, Wash.

Source: Renton Interim Zoning Code; June 7, 1993  
43, small lot residential housing; Sec. 4-31-5(D)(1)  
49, high-density single-family residential zones

Richland, Wash.

Source: Richland Zoning Ordinance  
44, minimum lot sizes

Sacramento County, Calif.

Source: Transit-Oriented Development Design Guidelines, Final Public Review Draft, September 1990.  
49, residential densities; Guideline 5A

Snoqualmie, Wash.

Sources: Snoqualmie Draft Zoning Code; April 4, 1995  
43, small lot residential housing; Sec. 17.15.020(A)  
46, accessory dwelling units; Sec. 17.55.070(A-K)

Tacoma, Wash.

Source: Tacoma Municipal Code; Ord. No. 25624  
46, accessory dwelling units; Sec. 13.06.196(C)(D)

Vancouver, Wash.

Source: Chapter 20.21, Mixed Use (MX) District Design Guidelines/Development Standards  
50, expedited development review process for mixed use developments, Sec. 20.21.306(G)(5)

Winthrop, Wash.

Source: Winthrop Ordinance No. 372  
43, small lot residential housing (Residential I District for single-family homes); Sec. V(1)(A)

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## Appendix C. Transit Supportiveness of Selected Land Uses

Some types of land use, because of their low intensity of development and strong reliance on the automobile for access, are inappropriate in areas targeted for increased transit use, bicycling, and walking. Examples of nontransit supportive land uses include automobile sales and rentals, service stations without convenience retail, many industrial uses, and drive-up only services. By contrast, some land uses are inherently transit supportive, such as office buildings, multifamily residential, and specialty retail. Other land uses can be transit supportive provided that the design of the development is pedestrian-friendly and provides pedestrian connections to neighboring uses.

Most land uses can potentially be made transit supportive if standards to maintain minimum densities and realize pedestrian-oriented designs are in place and are implemented. Service stations with retail, for example, can work in pedestrian districts provided they are compact in size and carefully designed.

The Table below is a guide to transit supportive land uses. Existing zoning should be compared with this table to determine whether allowable land uses support or could support transit use.

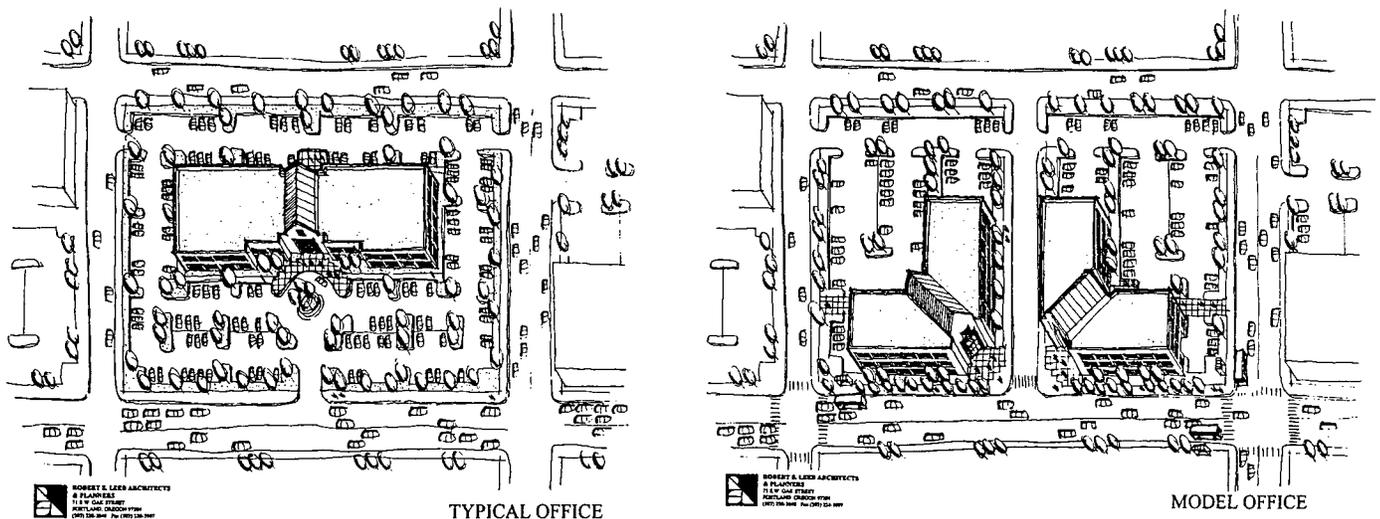
<b>Evaluation of the Transit Supportiveness of Selected Land Uses</b>								
Use Classification	1	Group 2	3	Use Classification	1	Group 2	3	
<b>Residential Uses</b>								
Single-family residential <sup>a</sup>				Food and beverage sales	—	X	—	
Lots greater than 5,000 sq ft	—	X	—	Funeral and interment services	—	—	X	
Lots 5,000 sq ft or less	X	—	—	Laboratories <sup>d</sup>	—	X	—	
Multifamily residential	X	—	—	Maintenance and repair services <sup>e</sup>	—	X	—	
Elderly residential	X	—	—	Nurseries, commercial	—	—	X	
<b>Public and Semipublic</b>				Offices, business and professional	X	—	—	
Cemeteries	—	—	X	Personal improvement services	—	X	—	
Clubs and lodges	—	X	—	Personal services	X	—	—	
Convalescent facilities	—	—	X	Research and development services	—	X	—	
Cultural institutions	X	—	—	Retail services	X	—	—	
Day care general	X	—	—	Volume discount retail	—	X	—	
Government offices	X	—	—	Travel services	X	—	—	
Hospitals medical offices	X	—	—	Vehicle equipment sales and services	—	—	X	
Park and recreation facilities <sup>b</sup>	—	X	—	Automobile rentals	—	—	X	
Public safety facilities	—	X	—	Automobile washing	—	—	X	
Residential care	—	X	—	Commercial parking garage <sup>g</sup>	—	—	X	
Schools and colleges	—	X	—	Commercial surface parking	—	—	X	
<b>Commercial Uses</b>				Service stations	—	X	—	
Ambulance services	—	—	X	with convenience retail	—	—	X	
Animal sales and services	—	X	—	Vehicle equipment repair	—	—	X	
Animal boarding	—	—	X	Vehicle equipment sales/rental	—	—	X	
Banks and savings and loans	X	—	—	Vehicle storage	—	—	X	
with drive-up service	X	—	—	Visitor accommodations	—	X	—	
Building materials and services	—	X	—	Hotels	X	—	—	
Commercial recreation and entertainment <sup>c</sup>	—	X	—	Bed and breakfast inns	X	—	—	
Eating and drinking establishments	X	—	—	Motels	—	X	—	
fast food or take-out	—	X	—	<b>Industrial Uses</b>				
with drive-through service	—	X	—	Includes truck stops, manufactured				
Bar and tavern	X	—	—	home sales cold storage plants				
				junk yards, and solid waste				
				transfer stations	—	—	X	
				Light industrial/employment	—	X	—	
Notes:								
Group 1 = Transit supportive								
Group 2 = May be transit supportive with appropriate development standards								
Group 3 = Not transit supportive								
<sup>a</sup> Small lots or attached single-family housing is transit supportive.								
<sup>b</sup> Small parks are transit supportive; large facilities, such as golf courses or multiple playing fields, are not.								
<sup>c</sup> Indoor uses such as cinemas and theaters are transit supportive.								
<sup>d</sup> Small-scale facilities, such as medical labs are transit supportive.								
<sup>e</sup> Neighborhood-oriented businesses are transit supportive.								
<sup>f</sup> Vehicle sales and service can be transit supportive if on-site storage of vehicles is limited.								
<sup>g</sup> Garages can be transit supportive if active, nonparking uses are located at street level.								
Source: Adapted from <i>Planning and Design for Transit, Tri-Met, March 1993.</i>								

## Appendix D. Portland Tri-Met, Comparison of Densities

<b>Comparison of Densities of Typical and Transit Supportive Office, Retail Center, and Multifamily Housing Projects</b>		
	Typical Development	Transit Supportive Development
<b>Office</b> (see Figure 1.8A)		
Site	4 acres	4.0 acres subdivided into two blocks; average block perimeter -1,200 feet
Parking	4.0 per 1,000 sq ft	3.0 per 1,000 square feet
Height	2 story	3 story plus basement parking
Landscaping	20-30% of site area	Minimal setbacks, usable open space
Density	0.5 floor area ratio	1.0 floor area ratio
<b>Retail Shopping Center</b> (see Figure 1.8B)		
Site	6.5 acres	6.5 acres subdivided into four blocks; average block perimeter -1,000 feet
Parking	4.5 per 1,000 sq ft	3.5 per 1,000 square feet
Height	1 story	2 story
Landscaping	20-30% of site area	Minimal setbacks, usable open space
Density	0.25 floor area ratio	0.5
<b>Multifamily Housing</b> (see Figure 1.8C)		
Site	4.6 acres	4.6 acres subdivided into two blocks; average block perimeter -1,260 feet
Parking	2 spaces per unit	1 space per bedroom or 1.5 per unit
Height	2 story	3 story
Landscaping	20-30% of site area	Minimal setbacks, usable open space
Density	22-24 dwelling units per acre	30 dwelling units per acre

## A Comparison of Typical and Model Office Development Projects

*Figure 1-8A*

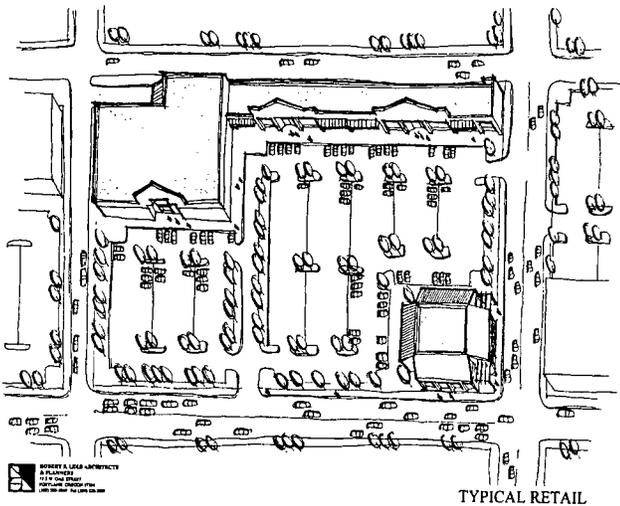


*Typical two-story office development with surface parking has a floor area ratio of 0.5.*

*Increasing the height to three stories and reducing parking to three spaces per 1,000 sq. ft. doubles the floor area ratio to 1.0.*

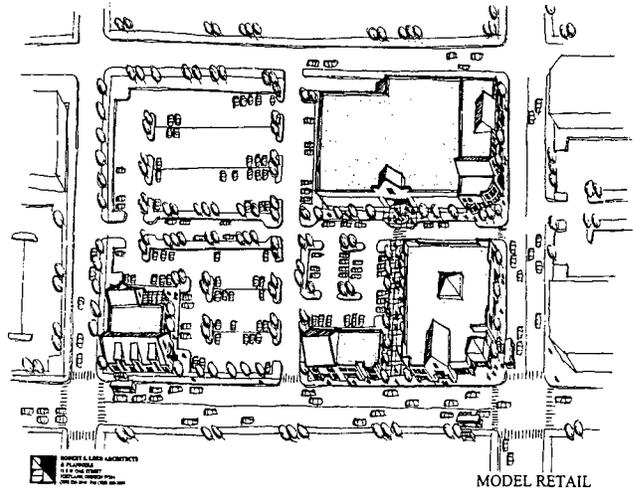
## A Comparison of Typical and Model Retail Center Projects

Figure 1-8B



TYPICAL RETAIL

Typical one-story retail development with 4.5 spaces per 1,000 sq. ft. has a floor area ratio of 0.25.

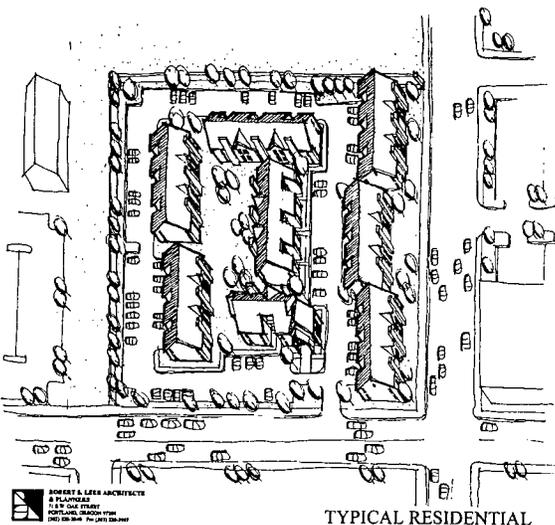


MODEL RETAIL

Increasing the height to two stories along one street and providing 3.5 spaces per 1,000 sq. ft. doubles the floor area ratio to 0.50.

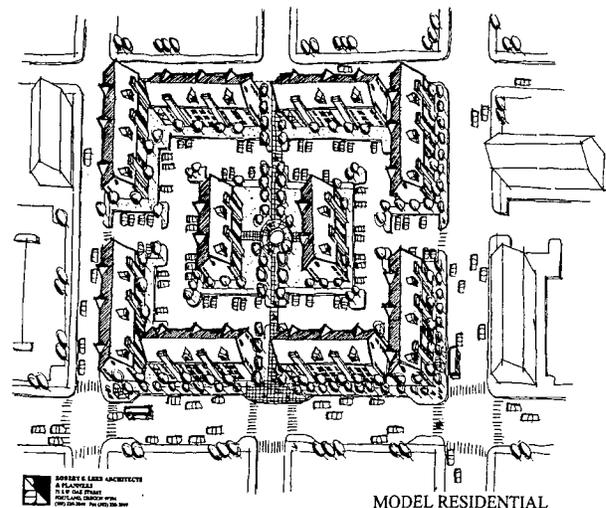
## A Comparison of Typical and Model Multifamily Housing Projects

Figure 1-8C



TYPICAL RESIDENTIAL

Typical two-story, multifamily residential development is built at 22 to 24 dwelling units per acre.



MODEL RESIDENTIAL

Increasing building heights to three stories and limiting parking to one space per bedroom increases the density to 30 dwelling units per acre.

Source: *Planning and Design for Transit*, Portland Tri-Met, March 1993.

## Appendix E. Vancouver, Washington, Rain Protection Combining District

- 2.59.200 Downtown rain protection combining district.**  
Provisions for the downtown rain protection combining district shall be as set forth in Sections 20.59.210 through 20.59.252. (Ord. M-2254 (part), 1981)
- 20.59.210 Purpose.**  
The downtown rain protection combining district (RP) is intended to achieve a weather protected system of pedestrian circulation which will enhance the economic vitality of the downtown core area, and which will provide a needed amenity for employees, visitors, and shoppers, and in order to protect the public health, safety, and welfare, rain protection features shall be required along street frontages in a certain area (Ord. M-2254 (part), 1981)
- 20.59.220 Establishment of boundaries.**  
Refer to Exhibit 59.220. Official maps are on file with the zoning administrator. (Ord. M-2254 (part), 1981)
- 20.59.230 Regulation of uses.**  
(Reserved for future use ) (Ord. M-2254 (part), 1981)
- 20.59.240 Special standards.**  
Special standards for the downtown rain protection combining district shall be as set forth in Sections 20.59.241 through 20.59.244. (Ord. M-2254 (part), 1981)
- 20.59.241 New construction—Required.**  
In the area so covered, rain protection features shall be required to be incorporated into all new construction if such construction is of a new structure, or if an existing structure is remodeled in such a way as to affect the appearance of that part of the structure facing the street; provided, remodeling found by the project review committee to be “minor” shall not be required to provide weather protection. The purpose of the rain protection requirement is to protect the public health, safety, and welfare by achieving a weather protected system for pedestrian circulation linking parking facilities, places of work, and shopping and visitor areas. (Ord. M-2254 (part), 1981)
- 20.59.242 New construction—Within fifteen feet of street property line.**  
All proposed new buildings within fifteen feet of the street property line shall be required to provide a rain protection feature meeting the requirements of Sections 20.59.200 through 20.59.252 (see Section 20.59.100). (Ord. M-2254 (part), 1981)
- 2059.243 Designated.**  
A rain protection feature meeting the requirements of Sections 20.59.200 through 20.59.252 may be an awning, overhang, marquee, freestanding shelter, arcade, or other architectural feature providing a rainsheltered sidewalk or walkway for pedestrians along the entire street frontage of the building but may not contain usable floor area of any kind unless a vacation of air rights from the city of Vancouver has been secured. (Ord. M-2254 (part), 1981)
- 20.59.244 Design standards.**  
New rain protection features, whether required or not, and which are located within a rain protection combining district shall be in compliance with the following design standards:
- A. Minimum vertical clearance above the sidewalk or walkway of no less than eight feet;
  - B. Maximum vertical clearance above the sidewalk or walkway of thirteen feet, except as provided for arcades in this section.
  - C. Rain protection features shall be provided within the public right-of-way (under a street use permit from the city), or within the property, or within both the public right-of-way and the property, except as provided for arcades in this section. Rain protection features shall provide cover of at least eight feet in depth over the sidewalk or other surfaced pedestrian way. Such features shall be additionally extended at least six inches in depth for each foot of vertical clearance above eight feet, but shall not extend closer than two feet to the curbline. In the absence of a curbline, the features shall extend a maximum of fifteen feet from the street property line into the public right-of-way; or, in the case of any publicly constructed rain protection feature parallel to the street property line, only to such rain protection feature or such minimum distance beyond such feature as is necessary to provide for complete coverage of the walkway, sidewalk, and property, or other walkway. Where a sidewalk along a street frontage containing a required building line and a required rain protection feature has a width of less than ten feet, an existing building constructed at the required building line may provide a rain protection feature with a depth of less than eight feet over the sidewalk, but not less than the depth between the building and two feet from the curbline.  
In the case of new construction, where the distance between the required building line and the curbline is less than ten feet the building may be set back from the required building line by no greater than that distance necessary to provide a cover of up to twelve feet in depth from the building line to the curbline. The rain protection feature shall extend to within two feet of the curbline.
  - D. Arcades Within Property. Along a lot frontage of at least one hundred feet, the rain protection feature requirement may be satisfied by an arcade, constructed wholly on the property within the building; provided, that the arcade adjoins and

is continuously accessible from the adjoining public right-of-way, and provides at least ten feet of horizontal clearance for pedestrians. An arcade may provide greater than thirteen feet of vertical clearance above the pedestrian walkway; provided, the ten-foot minimum horizontal clearance shall be increased by one foot for each foot of increase in height of the unprotected opening along the face of the arcade:

- E. Compatibility. Rain protection features on each building shall be designed to abut or join rain protection features provided or to be provided under this chapter. on adjacent buildings along the same street frontage, to the greatest extent possible in order to ensure a continuous protected pedestrian walkway (Ord. M-2254 (part), 1981)

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## Appendix F. Spokane, Washington, Point System for Streetscape Amenities

### 11.19.2165 Core Zone Building and Streetscape Features.

#### A. Purpose.

Building and streetscape features that contribute to an interesting and inviting street level are desired downtown: to avoid a monotonous environment; to restrict fortress-like facades at the street level; to provide a pleasant rich and diverse experience for pedestrians; and to encourage a high level of street-level activity.

Features such as entries and unobstructed windows are also desired to visually and functionally connect activities occurring within a structure to the adjacent sidewalk and to enhance crime prevention by increasing opportunity for surveillance of streets from interiors of buildings, in addition to enhancing the downtown streetscape.

#### B. Standards.

To achieve an inviting, active and safe downtown street level, all new development and redevelopment projects, except those listed in subsection C below, are required to provide street-level features as listed and have a total point value of at least twenty-five.

#### C. Exceptions.

The following are exempt from the requirements of this section:

1. A redevelopment project that does not exceed sixty percent of the predevelopment assessed value of the improvements is exempt.
2. Redevelopment of a building whose frontage does not exceed fifty feet horizontally provides twenty points of features.
3. An historic building that is listed on the national, state, or local register of historic places whose facade must be preserved.

#### D. Features and Bonus Points.

1. Building Entries.  
Each street-level pedestrian entry: (two points each, ten points maximum); Provide sufficient entries to create an interval between entries not to exceed an average of forty feet along the principal building frontage: (four points additional).
2. Marquees or Other Entry Coverings.  
Coverings over building entries that clearly identify the entry, provide pedestrian shelter and add interest to the streetscape: (two points each entry covering; six points maximum).
3. Pedestrian Shelter.  
Arcades, canopies, awnings, or similar features that offer pedestrians reasonable protection from weather extremes along a minimum of seventy-five percent of the building length facing streets: (nine points).\*
4. Windows.  
At least fifty percent of the building length and twenty-five percent of the exterior wall area on the ground floor abutting sidewalks, plazas, or other public open spaces or rights-of-way devoted to windows affording views to interior space: (ten points).\*
5. Landscaping.  
Landscaping on private property along a minimum of seventy five percent of the building length facing streets (excluding entryways): (eight points).
6. Water Features.  
Fountains, waterfalls, water sculpture, reflection ponds, or other exterior water features designed and untended as a focal point for Pedestrian activity: (five points per feature per frontage, up to two frontages).

7. **Public Seating.**  
Seating readily accessible to the public from the sidewalk in plazas, courtyards, atriums, or other similar spaces: (one point for each four chairs or ten feet of other seating space; five points maximum).
8. **Bicycle Parking.**  
On-site area to park bicycles conveniently and securely: (two points for each five bicycle parking spaces; four points maximum).
9. **Sidewalk Cafes.**  
Sidewalk cafes within the building line that are open during fair weather and designed for permanent use: (fifteen points).
10. **Public Open Spaces.**  
Plazas, courtyards and other open-air spaces that readily accessible to the public and designed for public use: (five points); Exterior areas no less than four hundred square feet in ground floor area designed and devoted for active play use by children: (four points additional).
11. **Enclosed Plazas/ Atriums.**  
Interior ground floor public spaces that are highly visible and accessible from the street, admit substantial amounts of natural light and are designed for public use: (five points).
12. **Building Pass-Through.**  
A highly visible and easily identifiable street-level pedestrian route centrally located through a building that conveniently connects one street with another and is intended for general public access: (six points); Pass-throughs that are accessible to the public twenty-four hours a day: (four points additional).
13. **Improved Alleys.**  
Adjacent alleys that are redeveloped and enhanced for pedestrian circulation and open space: (five points).
14. **Street-Level Public Restrooms.**  
Street-level public restrooms immediately accessible from building pass-throughs, public open spaces, or enclosed plazas/atriums as described in this section: (five points).
15. **Street-Level Day Care.**  
Street-level day care visible from the street: (five points).

**E. Design Review Committee Approval Required.**

The following features require the approval of the design review committee:

16. **Art.**  
Exterior artwork designed to meet the intent of this section, visible from the adjacent public right-of-way: (five points; artwork frontage, up to two frontages).
17. **Lighting.**  
Exterior lighting, whether ornamental or functional, beyond minimal lighting requirements that is determined to meet the intent of this section by enriching the downtown streetscape, highlighting architectural features of buildings, providing amenity or increasing safety for pedestrian circulation: (one to five points).
18. **Distinctive Signs.**  
Distinctive signs, particularly illuminated signs, that advance the intent of this section: (two points).
19. **Landscaping Right-of-Way or Fifty Percent of Building Length.**  
Landscaping within the public right-of-way along a minimum of seventy-five percent of the building length facing streets (excluding entryways); or, landscaping on private property along at least fifty percent of the length: (eight points).
20. **Facade Articulation/Detail.**  
Building facades for the first three floors above street grade that are evaluated and determined to meet the intent of this section, considerations including building material, color, detail (articulation and sculpture), lighting fixtures and incorporation of historic building elements: (ten points).
21. **Facade Preservation.**  
Existing building facades representing significant architectural value and meeting the intent of this section that are preserved and incorporated into new development projects: (up to twenty points).
22. **Other Street-Level Amenity.**  
A street-level amenity other than those listed above, such as planters or other street furniture, that is determined to advance the intent of this section: (one to five points).

**E. Conditional Use Permit**

Projects that do not meet the point total may apply for a conditional use permit through the PUD process.

\*Calculating Points for Buildings with more than one frontage: For buildings with more than one street-level frontage, the points allocated are based on the proportion of qualifying frontages in lineal feet to the total lineal feet of frontage to be evaluated. (Ord. C-30371)

## Appendix G. Redmond, Washington, Minimum/Maximum Parking Requirements

REQUIRED OFF STREET PARKING			
ZONING DISTRICT		Number of Parking Spaces On-site	
		Minimum Required	Maximum Allowed
General	G	2/du	NS
Agriculture	A		
Ranch Estates	RE		
Residential Estates	R1		
Suburban Estates	R-2-R-3		
Suburban Residence	R-4-R-5-R-6		
Urban Residence	R-8-R-12	1.2/Studio du	NS
Multiple Residence	R-20-R-30	1.5/1 Bedroom du#	
	CO-CB	1.8/2 Bedroom du#	
	GC	2.0/3+ Bedroom du#	
Professional Office	PO	3.5/1000 sq. ft. gfa	4.5/1000 sq. ft. gfa
Neighborhood Business	NB	4/1000 sq. ft. gfa	5/1000 sq. ft. gfa
Commercial Office	CO	3.5/1000 sq. ft. gfa	4.5/1000 sq. ft. gfa
Community Business	CB	4/1000 sq. ft. gfa	5/1000 sq. ft. gfa
General Commerce	GC	*	
City Center	CC		
Residential Uses (All)		1.0/DU****	NS
Bear Creek, Valley View, and Trestle			
		3.5/1000 sq. ft. gfa	5.5
Old Town	1,2	2.0/1000 sq. ft. gfa	2.0/1000 sq. ft. gfa***
Leary	1,2	2.0/1000 sq. ft. gfa	3.5/1000 sq. ft. gfa
Foot Hill	1,2	2.0/1000 sq. ft. gfa	3.5/1000 sq. ft. gfa
East Hill	1,2	2.0/1000 sq. ft. gfa	3.5/1000 sq. ft. gfa
Sammamish Trail	1,2	2.0/1000 sq. ft. gfa	3.5/1000 sq. ft. gfa
Town Square	1,2	2.0/1000 sq. ft. gfa	3.5/1000 sq. ft. gfa
River Bend	1,2	2.0/1000 sq. ft. gfa	3.5/1000 sq. ft. gfa
Mixed Use Shopping Center		3.5/1000 sq. ft. gfa	5.0/1000 sq. ft. gfa
Business Park	BP	2.0/1000 sq. ft. gfa	3/1000 sq. ft. gfa**
Light Industry	LI	2.0/1000 sq. ft. gfa	3/1000 sq. ft. gfa**
Heavy Industry	HI	2.0/1000 sq. ft. gfa	3/1000 sq. ft. gfa**
Planned Unit Developments	PD	2.0/1000 sq. ft. gfa	3/1000 sq. ft. gfa**
<p>Notes: du - Dwelling Unit gfa - Gross Floor Area NS - No Specification</p> <p>* - The number of spaces must be adequate to accommodate the peak shift as determined by the Code Administrator after considering the probable number of employees.</p> <p>** - The Technical Committee may consider parking at a ratio as low as 1.5/100 if a covenant is recorded with the property which limits the uses to warehouse uses and/or limits the number of employees permitted in a building or project. Parking at ratios greater than 3.0/1000 (not to exceed 3.5/1000) is generally not permitted unless the employer/building owner can document that single occupancy vehicle trips can be reduced better through the employer building owner's parking/traffic mitigation program than they would be reduced through limiting parking stalls to 3.0/1000.</p> <p>*** - Bonus available for in-lieu parking fund per Section 20C.20.150(20)(b).</p> <p>**** - Plus 1 guest space per 4 units for projects with 6 units or more.</p> <p># - Bedroom shall include all rooms that can be used as permanent sleeping quarters.</p> <p>1 - The maximum number of parking stalls allowed may be increased to 5.0 stalls per 1000 sq. ft. GFA for the retail components of mixed-use developments.</p> <p>2 - Developments may be allowed up to 5 stalls per 1,000 sq. ft. GFA provided: The excess parking is within a parking structure, or off-site within 300 feet of the use, or on the same site but in a location conducive to redevelopment or conversion to a commercial parking lot; and a portion of the parking is made available to the general public. The parking lot may be operated as a commercial lot. This provision shall sunset February 7, 1999, unless extended by ordinance. (Ord. 1756; Ord. 1734) Rev. 12/93</p>			

## Appendix H. Kirkland, Washington, Fee-In-Lieu System

### 50.60 SPECIAL PARKING PROVISIONS IN THE CBD 1, 2, AND 8 ZONES

#### 1. General

The provisions of this Section govern parking for uses in the CBD 1, 2, and 8 zones. To the extent that these provisions conflict with the provisions of Chapter 105, the provisions of this Section prevail. Where no conflict exists, the provisions of Chapter 105 apply to parking for uses in the CBD 1, 2, and 8 zones.

#### 2. Number of Spaces

To the extent that paragraphs 3 and 4 of this Section require that uses in the CBD 1, 2, and 8 zones provide parking, the following establishes the number of spaces required:

- a. Residential uses must provide 1.7 parking spaces for each dwelling unit.
- b. Restaurants and taverns must provide one parking space for each 125 square feet of gross floor area.
- c. All other uses must provide one parking space for each 350 square feet of gross floor area.

#### 3. Certain Floor Area Exempt from Parking Requirements

The following paragraphs establish several situations under which properties that are both within Local Improvement District 119 and the CBD 1, 2, and 8 zones are exempt in whole or in part from providing parking spaces:

- a. The owner need not increase the number of parking spaces for any floor area that existed prior to September 18, 1978, unless it is converted to a use requiring more parking spaces under paragraph 2 of this Section. If floor area is converted to a more parking intensive use, the owner has a parking obligation equal to the difference between the parking required for the former use and the parking required for the new use. Existing off-street parking provided for any use may not be reduced below the number required for that use based on paragraph 2 of this Section.
- b. The parking obligation of the subject property is reduced as follows:
  - 1) If new floor area was created or existing floor area converted to a more parking intensive use between September 20, 1976, and October 4, 1982, the number of stalls required for the subject property is reduced by the amount of the subject property's assessment under LID # 119 divided, by \$2,300.
  - 2) If new floor area is created or existing floor area is converted to a more parking intensive use after October 4, 1982, the number of stalls required for the subject property is reduced by the amount of the subject property's assessment under LID #119 divided by \$6,000.
  - 3) If the subject property was vacant as of September 18, 1978, the number of parking stalls required for the subject property is reduced by 1 for each 350 sq. ft. of gross floor area created on the ground floor of the subject property.

#### 4. Options for Meeting Parking Obligations

The applicant may meet his/her parking obligation, computed using paragraph 2 of this Section and after reductions under paragraph 3 of this Section, in either or a combination of the following ways:

- a. By providing the required number of parking stalls in or on the building containing the primary use conducted on the subject property.
- b. Providing, or paying the total cost of providing, with the consent of the City, the additional parking spaces in an existing municipal parking facility within the CBD, Planned Areas 6 or 7 zones, or Park/Public Use zones located adjacent to the CBD.
- c) By paying \$6,000 for each required parking stall or fraction of a stall into a special fund that will be used to provide and upgrade municipal off-street parking within the CBD, Planned Areas 6 or 7 zones, or Park/Public Use zones located adjacent to the CBD.

August 1987 (Ordinance 3031)  
February 1983 ( Ordinance 2729)  
Revised 9/93

## Appendix I. Portland, Oregon, Minimum Bicycle Parking Standards

<b>Minimum Required Bicycle Parking Spaces</b>	
<b>Use Categories</b>	<b>Minimum Required Spaces</b>
<b>Residential Categories</b>	
Household Living	Multi-dwelling—2, or 1 per 10 auto spaces All other residential structure types—none
Group Living	1 per 20 auto spaces
<b>Commercial Categories</b>	
Retail Sales And Service, Office	2, or 1 per 20 auto spaces, whichever is greater
Drive-up vehicle Servicing	none
Vehicle Repair	none
Commercial Parking Facilities, Commercial Outdoor Recreation, Major Event Entertainment	4, or 1 per 20 auto spaces, whichever is greater
Self-Service Storage	none
<b>Industrial Categories</b>	2, or 1 per 40 auto spaces, whichever is greater
<b>Service Categories</b>	
Basic Utilities	Park and Ride Facilities—2, or 1 per 20 auto spaces, All others—none
Community Service, Essential Service Providers, Parks And Open Areas	2, or 1 per 20 auto spaces, whichever is greater
Schools	High schools – 4 per classroom Middle schools – 2 per classroom Elementary schools – 2 per 4th and 5th grade classroom
Colleges, Medical Centers Religious Institutions, Daycare Uses	2, or 1 per auto spaces, whichever is greater
<b>Other Categories</b>	
Agriculture	none
Aviation Facilities, Detention Facilities	Per CU review
Mining, Radio And TV Towers, Utility Corridors	none

# Appendix J. Gresham, Oregon, Civic Neighborhood Plan District

## SECTION: 2.0660 CIVIC NEIGHBORHOOD PLAN DISTRICT

(Sections 2.0660 through 2.0681 added by Ord 1366 passed 7/11/95: effective 7/11/95)

### Section: 2.0661 Purpose

This section of the Community Development Plan implements the Gresham Civic Neighborhood Plan District. The Gresham Civic Neighborhood Plan District is conceived as an extension of the Downtown and seeks to complement the established surrounding community. The Plan District is to become a mixed-use, transit centered neighborhood that includes uses and features associated with the center of the City. It will embody civic qualities and is likely to inspire a sense of civic pride in those who use it. In order to accomplish these purposes, four land use sub-districts are designated exclusively within the boundaries of the Civic Neighborhood Plan District. All of the sub-districts permit commercial, residential, and mixed-use developments. The sub-districts are distinguished by differences in emphasis on primary uses and intensity of development. The four land use sub-districts are designed to work together to result in a lively, prosperous neighborhood that serves as an attractive place to live, work, shop, and recreate with less reliance on the automobile than is typical elsewhere in the community.

The four land use sub-district designations used in the Civic Neighborhood Plan District are listed below:

<u>Full Name</u>	<u>Short Name/Plan Map Symbol</u>
Transit Development District - Medium Density - Civic	TDM-C
Transit Development District - High Density - Civic	TDH-C
High-Density Residential - Civic	HDR-C
Moderate-Density Residential - Civic	MDR-C

### Section: 2.0662 General Descriptions of Sub-Districts

**Transit Development District - Medium Civic (TDM-C)** This designation affects land in the Civic Neighborhood which has good access both to existing and future light rail stations and to abutting arterial streets. Primary uses permitted include commercial, retail, and service uses occupying the ground floor area and all or a portion of the second story. Also permitted are mixed-use and multi-family developments with a minimum density of 24 units per acre. Larger buildings are encouraged in these areas, with parking under, behind, or to the sides of buildings.

**Transit Development District - High Density - Civic (TDH-C)** This designation affects land around existing and future light rail stations in the Civic Neighborhood area. Primary uses permitted include office buildings, retail, and service uses. Also permitted are mixed-use developments and multi-family residential at a minimum density of 30 units per acre. Larger buildings are encouraged in these areas, with parking under, behind, or to the sides of buildings. Free-standing retail uses are allowed up to 10,000 square feet of floor area.

**High-Density Residential - Civic (HDR-C)** This designation is applied to property which is within walking distance of light rail stations, but generally somewhat farther removed from the stations than the TDH-C district. Areas designated HDR-C are high-density residential neighborhoods with a minimum of 24 units per acre. Secondary uses include neighborhood commercial uses, smaller scale offices and neighborhood parks. Small free-standing Office Commercial uses are allowed within mixed-use developments, provided they do not occupy more than 50% of the residential floor area, and that minimum residential densities are met. Retail uses in free-standing buildings are not permitted, but are allowed within mixed-use buildings, provided they do not occupy more than 10,000 square feet of floor area, and that minimum residential densities are met.

**Moderate-Density Residential - Civic (MDR-C)** This designation is applied to property which is within walking distance of light rail stations and borders Wallula. Areas designated MDR-C are moderate density residential uses with a minimum density of 17 units per acre. Typical forms of housing include row houses, garden apartments, condominiums, and podium apartments. Mixed-use and neighborhood-scale commercial uses are allowed to locate within residential buildings occupying up to 100% of the ground floor area provided that minimum residential densities are met.

1. For purposes of this Plan District, the boundaries of the sub-districts shall be the centerline of the adjacent public rights of way depicted on the Community Development Plan Map. Any modification of the center line of such rights of way pursuant to Sec. 2.0678 (B) below shall result in a corresponding modification of the affected sub-district boundary.

### Section: 2.0663 Permitted Land Uses

Table 1 lists the types of land uses which are permitted in the Civic Neighborhood Plan District. A "Y" in this table indicates that a use type is permitted in that sub-district, subject to conformance with applicable provisions of this section and other sections of the Community Development Plan. An "L" in this table indicates a use type which may be permitted in that sub-district, but which is limited in the extent to which it may be permitted. An "N" in this table indicates a use type which is not permitted in that sub-district. Existing uses which are not permitted in a particular sub-district may continue in existence, subject to provisions of Article 11.36, Existing and Nonconforming Uses.

[1] Solid waste transfer stations, solid waste landfills, campgrounds, and golf courses are not permitted in the Civic Neighborhood Plan District.

- [2] When included in a mixed use building, this use may occupy up to 100% of the total ground floor area. Commercial uses are not permitted in any mixed-use development where the minimum residential density is not met.
- [3] When included in a mixed-use development, the maximum building footprint size for a free-standing building occupied by retail uses shall be 10,000 square feet.
- [4] This use is allowed only in mixed-use developments. Office and clinic uses shall not exceed 50% of the proposed residential floor area within the mixed-use development, and shall be permitted only when minimum residential densities are met.
- [5] These uses are permitted only within mixed-use developments, and shall have a maximum size of 10,000 sq. ft., provided that the minimum residential densities are met.
- [6] For Civic Neighborhood Plan District land use designations refer to Map 1, Land Use.
- [7] Auto-Dependent Uses are limited to sites fronting on Bumside, Eastman, and Division (See Sec. 2.0672)
- [8] The amount of site area used for outdoor business activities, product display, or storage shall not exceed 50% of the amount of floor area on the site.

**Section: 2.0664 Development Standards**

Table 2 summarizes development standards which apply within the Civic Neighborhood Plan District and which may, as provided in Sec. 11.41.010 (3), modify or replace other standards contained in the Community

Development Plan and implementing regulations. The standards contained in this table are supplemented by referenced subsections of Section 2.0660, which provide additional clarification and guidance. Existing developments which do not meet the standards specified for a particular sub-district may continue in existence and be altered, subject to provisions of Article 11.36, Existing and Nonconforming Uses.

**Notes:**

- [1] Two story frontages are required on designated Primary Pedestrian Streets. (A Primary Pedestrian Street is a street so designated on Map 2 of Appendix 38, Volume 1 of the Community Development Plan.)
- [2] For mixed use developments, the total requirements for off-street parking shall be the sum of the requirements for the various uses computed separately.
- [3] A maximum front or streetside setback of up to 20 ft. shall be permitted when enhanced pedestrian spaces and amenities are provided. (See Sec. 2.0668)
- [4] The maximum front or streetside setback may be exceeded when enhanced pedestrian spaces and amenities are provided.
- [5] Table 2a Maximum Parking Ratios for commercial use calculated on a building by building basis.

**Section: 2.0665 Lot Size**

There is no required minimum lot size for any use within the Civic Neighborhood Plan District. Land Divisions are subject to provisions of Article 11.44 of Volume 3, and Article V of Volume 4 of the Community Development Plan.

<b>Table 1</b>				
<b>Use Categories:</b>	<b>TDM-C</b>	<b>TDH-C</b>	<b>HDR-C</b>	<b>MDR-C</b>
<b>Commercial Uses</b>				
Offices	Y	Y	L [4]	L [2]
Clinics	Y	Y	L [4]	L [2]
Retail Trade	Y [8]	L [3] [8]	L [5] [8]	L [2] [8]
Business Service	Y [8]	Y [8]	L [5] [8]	L [2] [8]
Auto-Dependent Use	L [7]	L [7]	L [7]	L [7]
Mini-Storage Facilities	N	N	N	N
<b>Residential Uses</b>				
Attached Dwellings on a Single Lot	Y	Y	Y	Y
Single-Family Attached Dwellings	Y	Y	Y	Y
Single-Family Dwelling	N	N	N	N
Ancillary Dwelling	N	N	N	N
<b>Community Service Uses</b>				
Type I	Y	Y	Y	Y
Type II	Y	Y	Y	Y
Type III	Y [1]	Y [1]	Y [1]	Y [1]
<b>Mixed-Use Development</b>				
<b>Temporary Uses</b>				
<b>Home Occupations</b>				
	Y	Y	Y	Y

<b>Table 2</b>				
<b>Standard:</b>	<b>TDM-C</b>	<b>TDH-C</b>	<b>HDR-C</b>	<b>MDR-C</b>
Minimum Lot Size (Sec. 2.0665)	None	None	None	None
Minimum Average Floor Area Ratio (FAR) (Sec. 2.0666)	.4	1.1	None	None
Minimum Residential Density (Sec. 2.0666)	24 units/net acre	30 units/net acre	24 units/net acre	17 units/net acre
Maximum Residential Density	None	None	None	30 units/net acre
Minimum Building Setbacks (Sec. 2.0668)	0'	0'	0'	5' front; 10' rear; 0' interior side 5' street side; 20' from Wallula ROW
Maximum Building Setbacks on all street frontages (Sec. 2.0668)	0' on Primary Pedestrian Streets; 5' on all other frontage abutting a public right of way [3]	0' on Primary Pedestrian Streets; 5' on all other frontage abutting a public right of way [3]	0' on Primary Pedestrian Streets; 5' on all other frontage abutting a public right of way [3]	20' front none for rear & interior side; 20' for street-side; [4]
Minimum Building Height (Sec. 2.0667)	22 feet [1]	22 feet [1]	22 feet [1]	22 feet [1]
Maximum Building Height (Sec. 2.0667)	80' with fire protection otherwise 40'	80' with fire protection otherwise 40'	80' with fire protection otherwise 40'	40'
Minimum Off-Street Parking Required (Sec. 2.0671)	None required for Commercial uses 1 space/unit for residential	None required for Commercial uses 1 space/unit for residential	None required for Commercial uses 1 space/unit for residential	None required for Commercial uses 1 space/unit for residential
Maximum Off-Street Parking Permitted (Sec. 2.0671)	Residential 1 1/2 space/unit Commercial: See Table 2a [2] [5]	Residential 1 1/2 space/unit Commercial: See Table 2a [2] [5]	Residential 1 1/2 space/unit Commercial: See Table 2a [2] [5]	Residential 1 1/2 space/unit Commercial: See Table 2a [2] [5]
Ground Floor Window Standards Apply (Sec. 2.0669)	Yes	Yes	Yes	Yes
<b>Standard:</b>	<b>TDM-C</b>	<b>TDH-C</b>	<b>HDR-C</b>	<b>MDR-C</b>
Screening & Buffering Required (Sec. 3.0700)	N	N	N	N

<b>Table 2a</b>			
<b>Permitted Land Use</b> (Sec. 2.0663)	Maximum Parking up to 65,000 SF of floor area	Maximum Parking 65,000 SF to 90,000 SF of floor area	Maximum Parking greater than 90,000 SF of floor area
<b>Retail and Commercial</b>	4.5 : 1000 SF	3.61 : 1000 SF	2.89 : 1000 SF
<b>Office</b>	2.75 : 1000 SF	2.75 : 1000 SF	2.75 : 1000 SF
<b>Theatre</b>	The lesser number of spaces calculated under Sec. 3.0330 (E) (1), provided the minimum density standards in Sec. 2.0666 are met.	The lesser number of spaces calculated under Sec. 3.0330 (E) (1), provided the minimum density standards in Sec. 2.0666 are met.	The lesser number of spaces calculated under Sec. 3.0330 (E) (1), provided the minimum density standards in Sec. 2.0666 are met.

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