

EXHIBIT D

DRAFT Amendments to TDC Chapter 18.810 Street and Utility Improvement Standards

Proposed amendments are shown as follows:

- ◆ Proposed new text is shown in double-underline.
- ◆ Existing text proposed to be deleted is shown in ~~strike-through~~.

Sections:

18.810.010	Purpose
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18.810.040	Blocks
18.810.050	Easements
18.810.060	Lots
18.810.070	Sidewalks
18.810.080	Public Use Areas
18.810.090	Sanitary Sewers
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18.810.110	Bikeways and Pedestrian Pathways
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18.810.010 Purpose

- A. Purpose. The purpose of this chapter is to provide construction standards for the implementation of public and private facilities and utilities such as streets, sewers, and drainage.

18.810.020 General Provisions

- A. When standards apply. Unless otherwise provided, construction, reconstruction or repair of streets, sidewalks, curbs and other public improvements shall occur in accordance with the standards of this title. No development may occur and no land use application may be approved unless the public facilities related to development comply with the public facility requirements established in this section and adequate public facilities are available. Applicants may be required to dedicate land and build required public improvements only when the required exaction is directly related to and roughly proportional to the impact of the development.

- B. Standard specifications. The city engineer shall establish standard specifications consistent with the application of engineering principles.
- C. Chapter 7.40 applies. The provision of Chapter 7.40 of the Tigard Municipal Code shall apply to this chapter.
- D. Adjustments. Adjustments to the provisions in this chapter related to street improvements may be granted by means of a Type II procedure, as governed by Section 18.390.040, using approval criteria in Section 18.370.020.C.11 ~~18.370.030.C.9~~. (Ord. 99-22)
- E. Except as provided in Section 18.810.030.S, as used in this chapter, the term “streets” shall mean “public streets” unless an adjustment under Section 18.810.020.D is allowed. (Ord. 99-22)

18.810.030 Streets

A. Improvements.

1. No development shall occur unless the development has frontage or approved access to a public street.
2. No development shall occur unless streets within the development meet the standards of this chapter.
3. No development shall occur unless the streets adjacent to the development meet the standards of this chapter, provided, however, that a development may be approved if the adjacent street does not meet the standards but half-street improvements meeting the standards of this title are constructed adjacent to the development.
- 4 Any new street or additional street width planned as a portion of an existing street shall meet the standards of this chapter.
5. If the city could and would otherwise require the applicant to provide street improvements, the city engineer may accept a future improvements guarantee in lieu of street improvements if one or more of the following conditions exist:
 - a. A partial improvement is not feasible due to the inability to achieve proper design standards;
 - b. A partial improvement may create a potential safety hazard to motorists or pedestrians;
 - c. Due to the nature of existing development on adjacent properties it is unlikely that street improvements would be extended in the foreseeable future and the improvement associated with the project under review does not, by itself, provide a significant improvement to street safety or capacity;
 - d. The improvement would be in conflict with an adopted capital improvement plan;
 - e. The improvement is associated with an approved land partition on property zoned residential and the proposed land partition does not create any new streets; or
 - f. Additional planning work is required to define the appropriate design standards for the street and the application is for a project which would contribute only a minor portion of the anticipated future traffic on the street.

6. The standards of this chapter include the standard specifications adopted by the city engineer pursuant

to Section 18.810.020.B.

7. The approval authority may approve adjustments to the standards of this chapter if compliance with the standards would result in an adverse impact on natural features such as wetlands, bodies of water, significant habitat areas, steep slopes, or existing mature trees. The approval authority may also approve adjustments to the standards of this chapter if compliance with the standards would have a substantial adverse impact on existing development or would preclude development on the property where the development is proposed. In approving an adjustment to the standards, the approval authority shall balance the benefit of the adjustment with the impact on the public interest represented by the standards. In evaluating the impact on the public interest, the approval authority shall consider the criteria listed in Section 18.810.030.E.1. An adjustment to the standards may not be granted if the adjustment would risk public safety.

B. Creation of rights-of-way for streets and related purposes. Rights-of-way shall be created through the approval of a final subdivision plat or major partition; however, the council may approve the creation of a street by acceptance of a deed, provided that such street is deemed essential by the council for the purpose of general traffic circulation.

1. The council may approve the creation of a street by deed of dedication without full compliance with the regulations applicable to subdivisions or major partitions if any one or more of the following conditions are found by the council to be present:
 - a. Establishment of a street is initiated by the council and is found to be essential for the purpose of general traffic circulation, and partitioning or subdivision of land has an incidental effect rather than being the primary objective in establishing the road or street for public use; or
 - b. The tract in which the road or street is to be dedicated is an isolated ownership of one acre or less and such dedication is recommended by the commission to the council based on a finding that the proposal is not an attempt to evade the provisions of this title governing the control of subdivisions or major partitions.
 - c. The street is located within the Downtown Mixed Use Central Business District and has been identified on Figures 5-14A through 5-14I of the City of Tigard 2035 Transportation System Plan as a required connectivity improvement.
2. With each application for approval of a road or street right-of-way not in full compliance with the regulations applicable to the standards, the proposed dedication shall be made a condition of subdivision and major partition approval.
 - a. The applicant shall submit such additional information and justification as may be necessary to enable the commission in its review to determine whether or not a recommendation for approval by the council shall be made.
 - b. The recommendation, if any, shall be based upon a finding that the proposal is not in conflict with the purpose of this title.
 - c. The commission in submitting the proposal with a recommendation to the council may attach conditions which are necessary to preserve the standards of this title.
3. All deeds of dedication shall be in a form prescribed by the city and shall name “the public” as grantee.

C. Creation of access easements. ...

- D. Street location, width and grade. Except as noted below, the location, width and grade of all streets shall conform to an approved street plan and shall be considered in their relation to existing and planned streets, to topographic conditions, to public convenience and safety, and in their appropriate relation to the proposed use of the land to be served by such streets:
1. Street grades shall be approved by the city engineer in accordance with subsection N below; and
 2. Where the location of a street is not shown in an approved street plan, the arrangement of streets in a development shall either:
 - a. Provide for the continuation or appropriate projection of existing streets in the surrounding areas, or
 - b. Conform to a plan adopted by the commission, if it is impractical to conform to existing street patterns because of particular topographical or other existing conditions of the land. Such a plan shall be based on the type of land use to be served, the volume of traffic, the capacity of adjoining streets and the need for public convenience and safety.
- E. Minimum rights-of-way and street widths. Unless otherwise indicated on an approved street plan, or as needed to continue an existing improved street or within the Downtown District, street right-of-way and roadway widths shall not be less than the minimum width described below. Where a range is indicated, the width shall be determined by the decision-making authority based upon anticipated average daily traffic (ADT) on the new street segment. (The City Council may adopt by resolution, design standards for street construction and other public improvements. The design standards will provide guidance for determining improvement requirements within the specified ranges.) These are presented in Table 18.810.1.
1. The decision-making body shall make its decision about desired right-of-way width and pavement width of the various street types within the subdivision or development after consideration of the following:
 - a. The type of road as set forth in the comprehensive plan transportation chapter - functional street classification.
 - b. Anticipated traffic generation.
 - c. On-street parking needs.
 - d. Sidewalk and bikeway requirements.
 - e. Requirements for placement of utilities.
 - f. Street lighting.
 - g. Drainage and slope impacts.
 - h. Street tree location.
 - i. Planting and landscape areas.
 - j. Safety and comfort for motorists, bicyclists, and pedestrians.
 - k. Access needs for emergency vehicles.

Table 18.810.1

Minimum Widths for Street Characteristics and Downtown Street Character Types

Type of Street	Right-of-Way Width	Paved Width	Number of Lanes	Min. Lane Width	On-street Parking Width	Bike Lane Width	Sidewalk Width	Landscape Strip Width (exclusive of curb)	Median Width
Arterial	64'—128'	Varies	2—7 (Refer to TSP)	12'	N/A	6' (New Streets) 5'—6' (Existing Streets)	8' (Res. & Ind. Zones) 10' (Comm. Zones)	5'	12' ⁽¹⁾
Collector	58'—96'	Varies	2—5 (Refer to TSP)	11'	8' ⁽⁴⁾	6' (New Streets) ⁽⁵⁾ 5'—6' (Existing Streets) ₍₅₎	6' (Res. & Ind. Zones) 8' (Comm. Zones)	5'	12' ⁽¹⁾
Neighborhood Route	50'—58'	28'—36'	2	10'	8'	5'—6'	5'—6' ⁽²⁾	5'	N/A
Local: Industrial/Commercial	50'	36'	2			N/A	5'—6' ⁽²⁾	5'	N/A
Local: Residential • Under 1500 ADT • Under 500 ADT • Under 200 ADT	54'/50' ⁽³⁾ 50'/46' ⁽³⁾ 46'/42' ⁽³⁾	32'/28' ⁽³⁾ 28'/24' ⁽³⁾ 24'/20' ⁽³⁾	2 2 2		8' (both sides) 8' (one side) (No Parking)	N/A N/A N/A	5'—6' ⁽²⁾	5'	N/A
Cul-de-sac bulbs in Industrial and Commercial Zones	50' radius	42' radius	N/A	N/A		N/A			N/A
Cul-de-sac bulbs in Residential Zones	47' radius	40' radius	N/A	N/A		N/A		N/A	N/A
Upper Hall Boulevard ⁽⁶⁾	<u>94'</u>	<u>64'</u>	<u>3</u>	<u>11'</u>	<u>8'</u>	<u>6'</u>	<u>10.5'</u>	<u>4'</u>	<u>14'</u>
Main Street Green Street	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>	<u>TBD⁽⁷⁾</u>
<u>Downtown Mixed Use 1 – Downtown Collector</u>	<u>66'-70'</u>	<u>46'</u>	<u>2</u>	<u>10'</u>	<u>8'</u>	<u>5'</u>	<u>6-8'</u>	<u>4'</u>	<u>N/A</u>
<u>Downtown Mixed Use 2 – Downtown Neighborhood</u>	<u>58'-62'</u>	<u>38'</u>	<u>2</u>	<u>11'</u>	<u>8'</u>	<u>N/A</u>	<u>6-8'</u>	<u>4'</u>	<u>N/A</u>
<u>Downtown Mixed Use 3 – Upper Burnham</u>	<u>62'-74'</u>	<u>38'</u>	<u>2</u>	<u>11'</u>	<u>8'</u>	<u>N/A</u>	<u>6-8'</u>	<u>5.5-9.5'</u>	<u>N/A</u>
<u>Downtown Mixed Use 4 – Lower Burnham</u>	<u>68'-72'</u>	<u>48'</u>	<u>2</u>	<u>10'</u>	<u>8'</u>	<u>N/A</u>	<u>6-8'</u>	<u>4'</u>	<u>12'</u>

<u>Downtown – Urban Residential</u>	<u>52’-56’</u>	<u>32’</u>	<u>1</u>	<u>18’</u>	<u>7’</u>	<u>N/A</u>	<u>6-8’</u>	<u>4’</u>	<u>N/A</u>
Alley: Residential	16’	16’			N/A	N/A	N/A	N/A	N/A
Alley: Business	20’	20’			N/A	N/A	N/A	N/A	N/A

¹ Medians required for five- and seven-lane roadways. They are optional for three-lane roadways.

² Sidewalk widths for these streets shall be five feet with landscape strip; six feet if against curb (if permitted in accordance with Section 18.810.070.C).

³ “Skinny street” roadway widths are permitted where cross section and review criteria are met. Refer to corresponding cross sections (Figures 18.810.3, 18.810.4 and 18.810.5) for details and conditions.

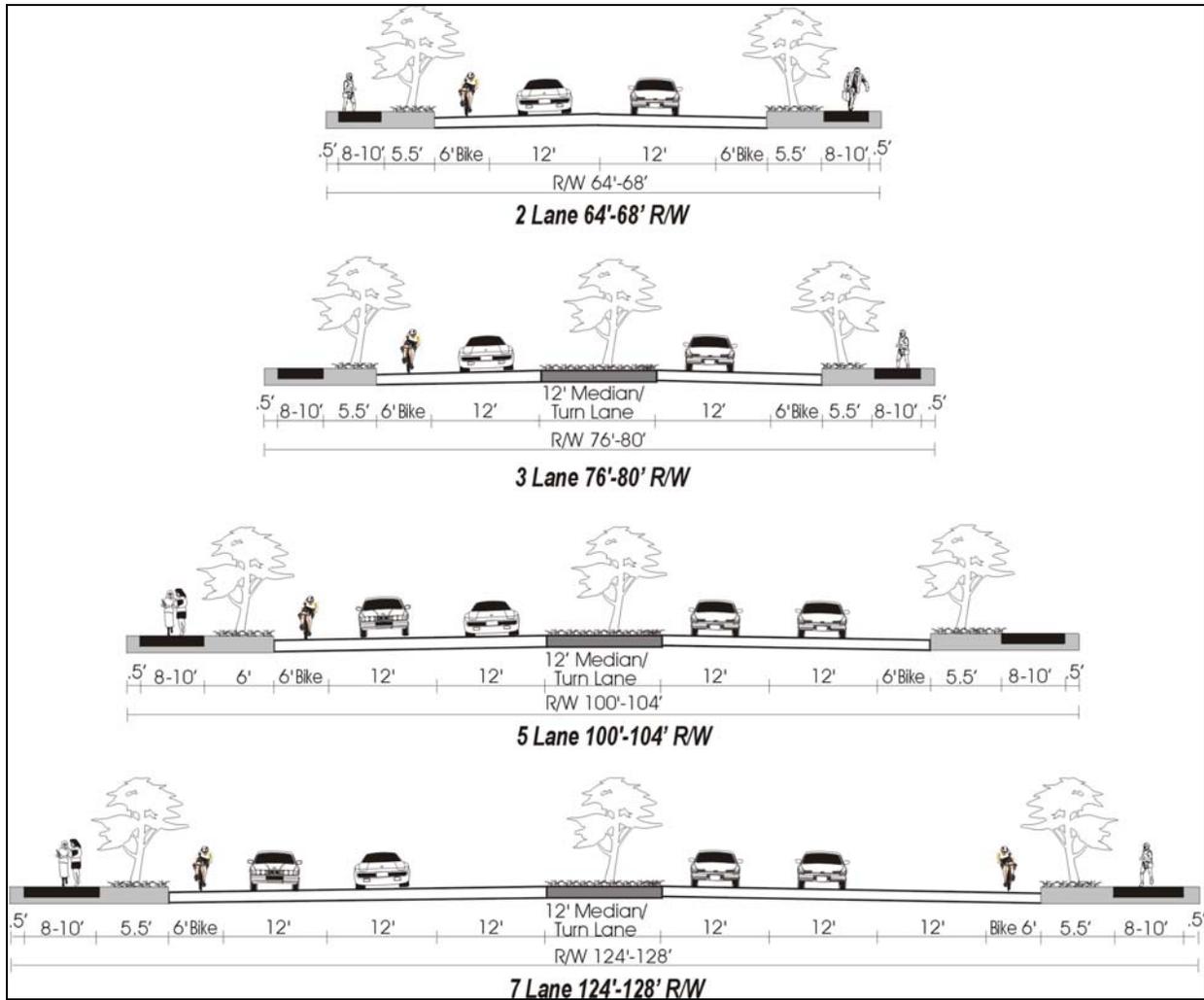
⁴ Parking is allowed on collectors within the Downtown Urban Renewal District.

⁵ Bicycle lane requirements on collectors within the Downtown Urban Renewal District shall be determined by the city engineer.

⁶ SW Hall Boulevard is currently an ODOT facility. The 2035 Tigard Transportation System Plan recommends that a corridor plan be completed for the SW Hall Boulevard Corridor. The street character standards for Upper Hall Boulevard shall not be considered final until the corridor plan is complete.

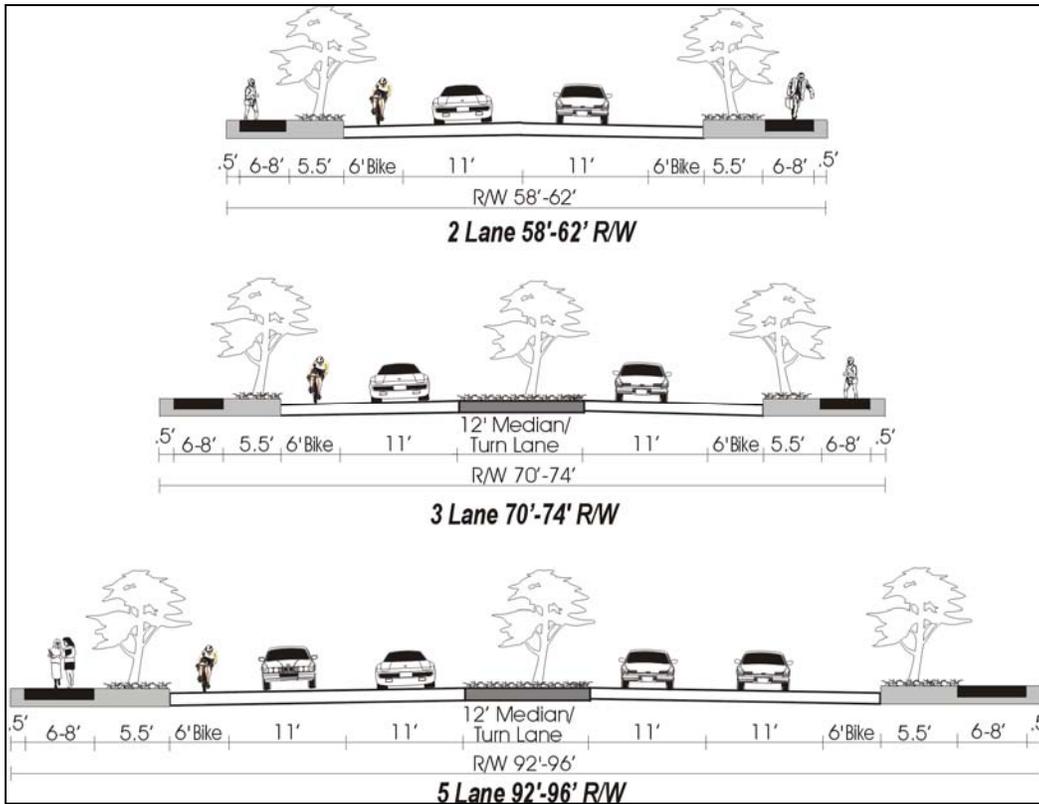
⁷ Main Street Green Street standards are currently being developed through a separate process.

Figure 18.810.1
Arterials Sample Cross Sections



(Ord. 02-33)

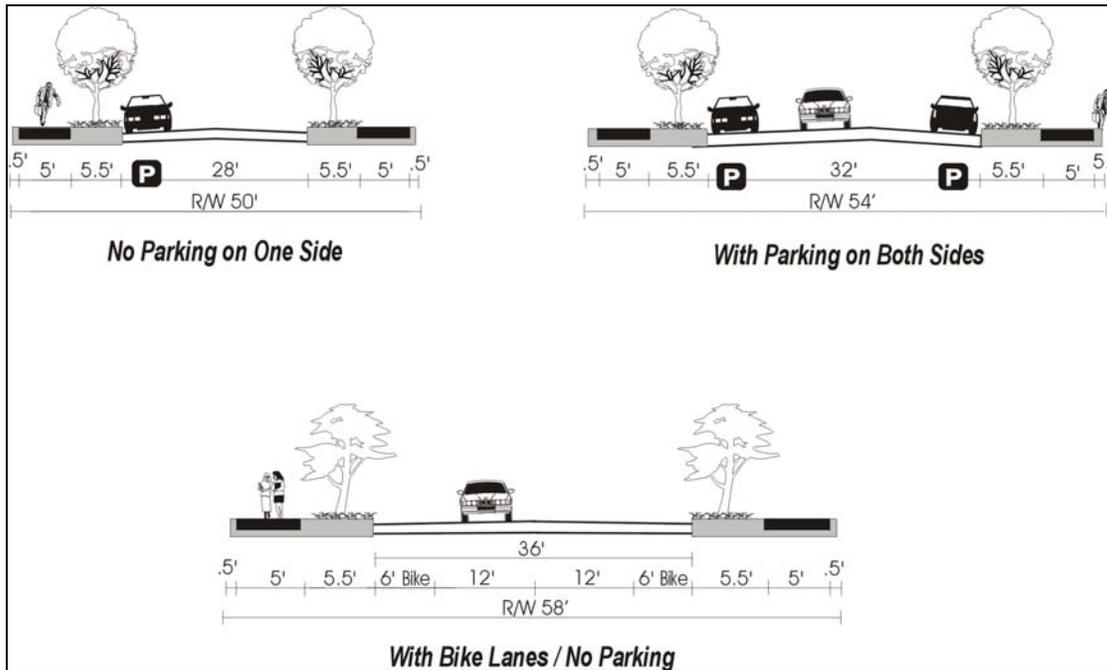
Figure 18.810.2
Collector Sample Cross Sections ⁽¹⁾



¹ Parking is allowed on collectors within the Downtown Urban Renewal District. Bike lane requirements on these same collectors shall be determined by the city engineer.

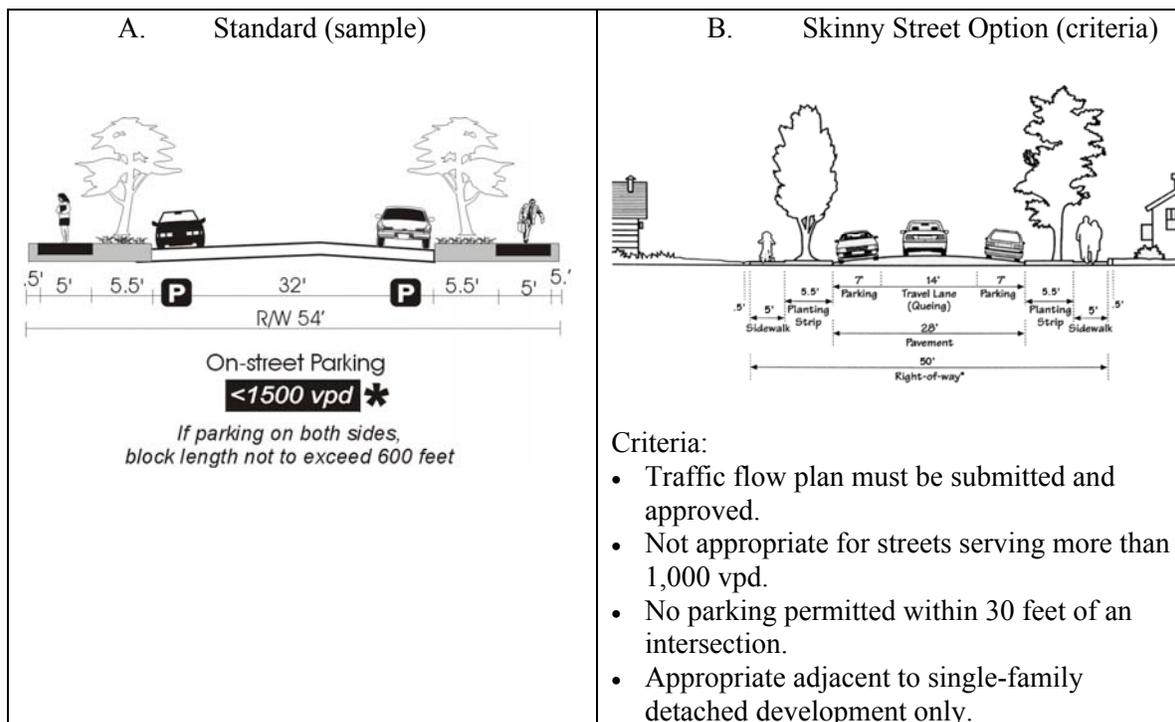
(Ord. 09-09 § 3 (Exh. B); Ord. 02-33)

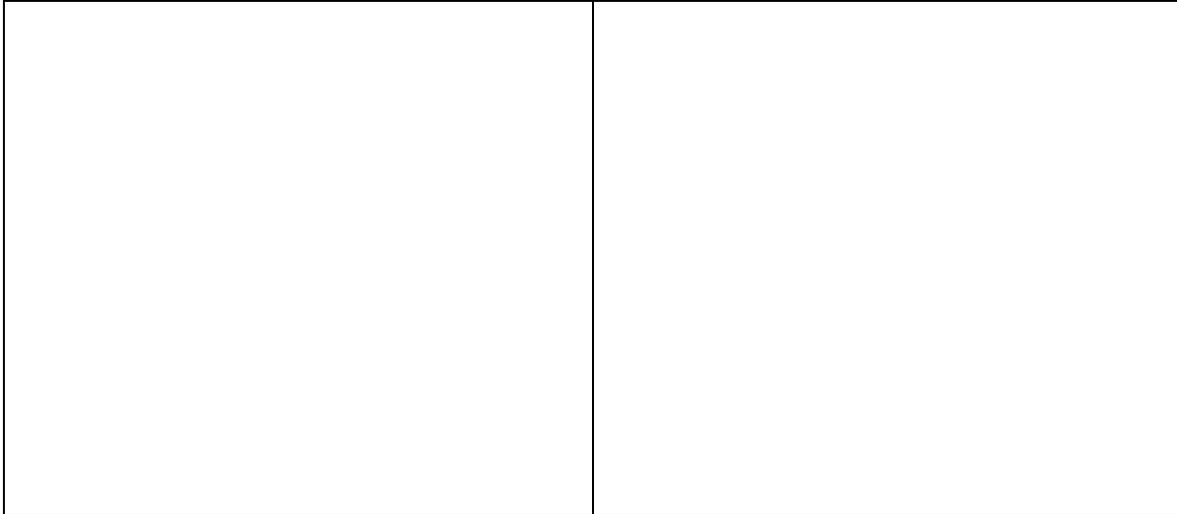
Figure 18.810.3
Neighborhood Routes Sample Cross Sections



(Ord. 02-33)

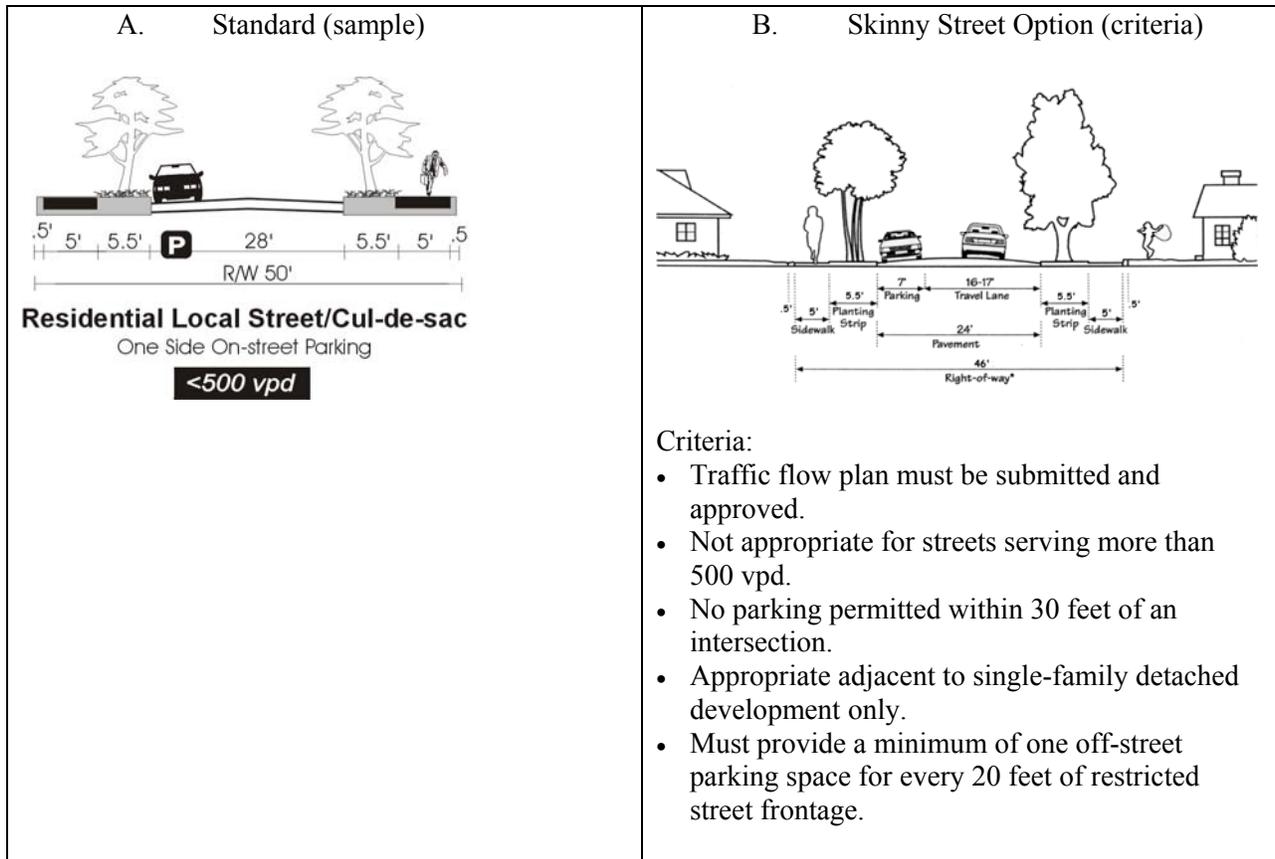
Figure 18.810.4
Local Residential Streets - <1,500 vpd





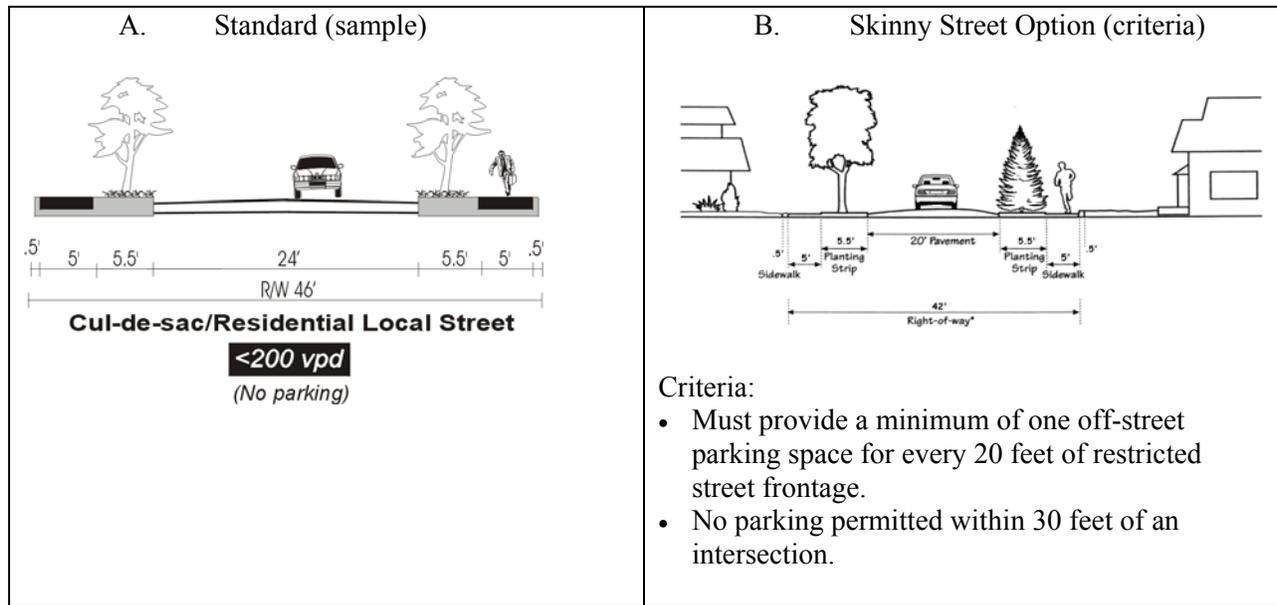
(Ord. 02-33)

Figure 18.810.5
Local Residential Streets < 500 vpd



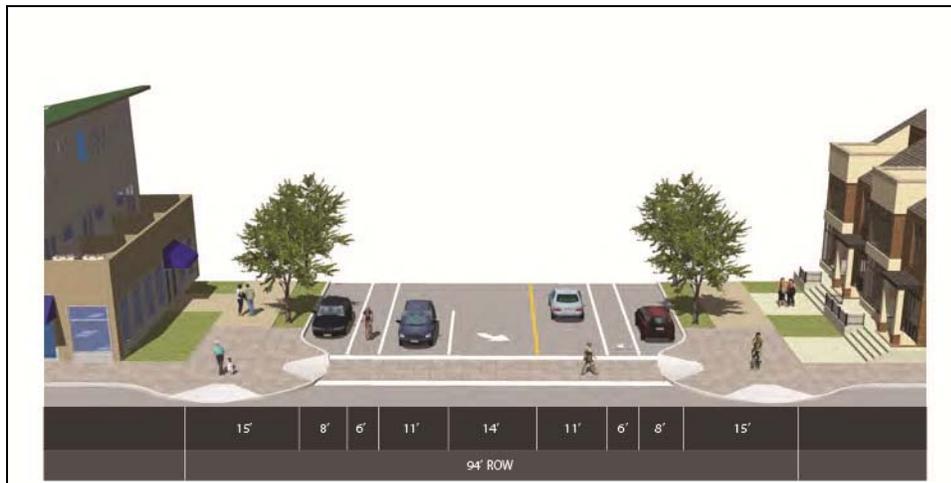
(Ord. 02-33)

Figure 18.810.6
Local Residential Street < 200 vpd



(Ord.02-33)

Figure 18.810.7
Upper Hall Boulevard



Note: SW Hall Boulevard is currently an ODOT facility. The 2035 Tigard Transportation System Plan recommends that a corridor plan be completed for the SW Hall Boulevard Corridor. The street character standards for Upper Hall Boulevard shall not be considered final until the corridor plan is complete.

Figure 18.810.8
Downtown Mixed Use 1 – Downtown Collector

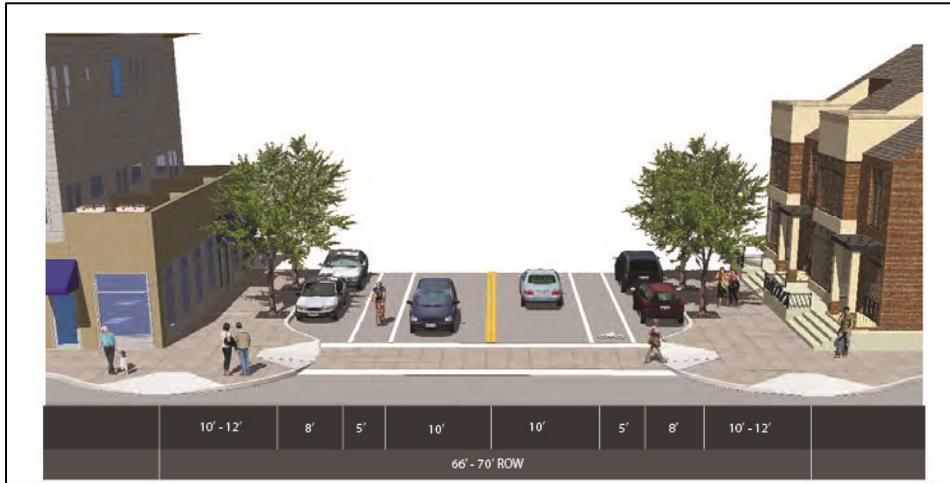


Figure 18.810.9
Downtown Mixed Use 2 – Downtown Neighborhood



Figure 18.810.10
Downtown Mixed Use 3 – Upper Burnham



Figure 18.810.11
Downtown Mixed Use 4 – Lower Burnham

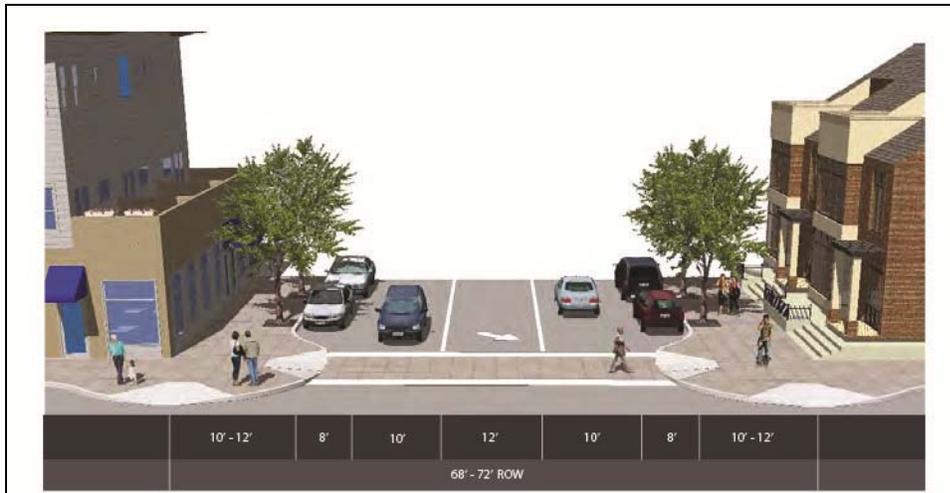


Figure 18.810.12
Downtown – Urban Residential



Figure 18.810.12
Alley: Business



Note: Permeable pavers are optional.

F. Future street plan and extension of streets.

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G. Street spacing and access management.

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H. Street alignment and connections.

1. Full street connections with spacing of no more than 530 feet between connections is required except where prevented by barriers such as topography, railroads, freeways, pre-existing developments, lease provisions, easements, covenants or other restrictions existing prior to May 1, 1995 which preclude street connections. A full street connection may also be exempted due to

a regulated water feature if regulations would not permit construction.

2. All local, neighborhood routes and collector streets which abut a development site shall be extended within the site to provide through circulation when not precluded by environmental or topographical constraints, existing development patterns or strict adherence to other standards in this code. A street connection or extension is considered precluded when it is not possible to redesign or reconfigure the street pattern to provide required extensions. Land is considered topographically constrained if the slope is greater than 15% for a distance of 250 feet or more. In the case of environmental or topographical constraints, the mere presence of a constraint is not sufficient to show that a street connection is not possible. The applicant must show why the constraint precludes some reasonable street connection.
3. Proposed street or street extensions shall be located to provide direct access to existing or planned transit stops, commercial services, and other neighborhood facilities, such as schools, shopping areas and parks.
4. All developments should provide an internal network of connecting streets that provide short, direct travel routes and minimize travel distances within the development.

I. Intersection angles. ...

J. Existing rights-of-way. Whenever existing rights-of-way adjacent to or within a tract are of less than standard width, additional rights-of-way shall be provided at the time of subdivision or development.

K. Partial street improvements. Partial street improvements resulting in a pavement width of less than 20 feet, while generally not acceptable, may be approved where essential to reasonable development when in conformity with the other requirements of these regulations, and when it will be practical to require the improvement of the other half when the adjoining property developed.

L. Culs-de-sacs. ...

M. Street names. ...

N. Grades and curves.

...

O. Curbs, curb cuts, ramps, and driveway approaches. ...

P. Streets adjacent to railroad right-of-way. ...

Q. Access to arterials and collectors. ...

R. Alleys, public or private.

1. Alleys shall be no less than 20 feet in width. In commercial and industrial districts, alleys shall be provided unless other permanent provisions for access to off-street parking and loading facilities are made.
2. While alley intersections and sharp changes in alignment shall be avoided, the corners of necessary alley intersections shall have a radius of not less than 12 feet.

- S. Survey monuments. ...
- T. Private streets.
...
- U. Railroad crossings. Where an adjacent development results in a need to install or improve a railroad crossing, the cost for such improvements may be a condition of development approval, or another equitable means of cost distribution shall be determined by the public works director and approved by the commission.
- V. Street signs. ...
- W. Mailboxes. ...
- X. Traffic signals. ...
- Y. Street light standards. ...
- Z. Street name signs. ...
- AA. Street cross-sections. ...
- BB. Traffic calming. ...
- CC. Traffic study. ...

18.810.040 Blocks

- A. Block design. The length, width and shape of blocks shall be designed with due regard to providing adequate building sites for the use contemplated, consideration of needs for convenient access, circulation, control and safety of street traffic and recognition of limitations and opportunities of topography.
- B. Sizes.
 - 1. The perimeter of blocks formed by streets shall not exceed 2,000 feet measured along the centerline of the streets except:
 - a. Where street location is precluded by natural topography, wetlands, significant habitat areas or bodies of water, or pre-existing development; or
 - b. For blocks adjacent to arterial streets, limited access highways, collectors or railroads.
 - c. For nonresidential blocks in which internal public circulation provides equivalent access.
 - 2. Bicycle and pedestrian connections on public easements or right-of-ways shall be provided when full street connection is exempted by subsection B.1 of this section. Spacing between connections shall be no more than 330 feet, except where precluded by environmental or topographical constraints, existing development patterns, or strict adherence to other standards in the code. (Ord. 06-20; Ord. 02-33)

18.810.050 Easements

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18.810.060 Lots

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18.810.070 Sidewalks

- A. Sidewalks. All industrial streets and private streets shall have sidewalks meeting city standards along at least one side of the street. All other streets shall have sidewalks meeting city standards along both sides of the street. A development may be approved if an adjoining street has sidewalks on the side adjoining the development, even if no sidewalk exists on the other side of the street.
- B. Requirement of developers.
1. As part of any development proposal, or change in use resulting in an additional 1,000 vehicle trips or more per day, an applicant shall be required to identify direct, safe (1.25 x the straight line distance) pedestrian routes within 1/2 mile of their site to all transit facilities and neighborhood activity centers (schools, parks, libraries, etc.). In addition, the developer may be required to participate in the removal of any gaps in the pedestrian system off-site if justified by the development.
 2. If there is an existing sidewalk on the same side of the street as the development within 300 feet of a development site in either direction, the sidewalk shall be extended from the site to meet the existing sidewalk, subject to rough proportionality (even if the sidewalk does not serve a neighborhood activity center).
- C. Planter strip requirements. A planter strip separation of at least five feet between the curb and the sidewalk shall be required in the design of streets, except where the following conditions exist: there is inadequate right-of-way; the curbside sidewalks already exist on predominant portions of the street; it would conflict with the utilities; there are significant natural features (large trees, water features, significant habitat areas, etc.) that would be destroyed if the sidewalk were located as required; ~~or~~ where there are existing structures in close proximity to the street (15 feet or less); or where the standards in Table 18.810.1 specify otherwise. Additional consideration for exempting the planter strip requirement may be given on a case-by-case basis if a property abuts more than one street frontage.
- ~~D. Sidewalks in Central Business District. In the Central Business District, sidewalks shall be 10 feet in width, and:~~
- ~~1. All sidewalks shall provide a continuous unobstructed path; and~~
 - ~~2. The width of curbside sidewalks shall be measured from the back of the curb.~~
- E. Maintenance. ...
- F. Application for permit and inspection. ...
- G. Council initiation of construction. ... (Ord. 06-20; Ord. 02-33; Ord. 99-22)

18.810.080 Public Use Areas

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18.810.090 Sanitary Sewers

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18.810.100 Storm Drainage

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18.810.110 Bikeways and Pedestrian Pathways

A. Bikeway extension.

1. As a standard, bike lanes shall be required along all arterial and collector routes and where identified on the city's adopted bicycle plan in the transportation system plan (TSP). Bike lane requirements along collectors within the Downtown Urban Renewal District shall be determined by the city engineer unless specified in Table 18.810.1.
2. Developments adjoining proposed bikeways identified on the city's adopted pedestrian/bikeway plan shall include provisions for the future extension of such bikeways through the dedication of easements or rights-of-way, provided such dedication is directly related to and roughly proportional to the impact of the development.
3. Any new street improvement project shall include bicycle lanes as required in this document and on the adopted bicycle plan.

B. Cost of construction. Development permits issued for planned unit developments, conditional use permits, subdivisions and other developments which will principally benefit from such bikeways shall be conditioned to include the cost or construction of bikeway improvements in an amount roughly proportional to the impact of the development.

C. Minimum width.

1. The minimum width for bikeways within the roadway is five feet per bicycle travel lane.
2. The minimum width for multi-use paths separated from the road and classified as regional or community trails in the Greenway Trail System Master Plan is 10 feet. The width may be reduced to eight feet if there are environmental or other constraints.
3. The minimum width for off-street paths classified as neighborhood trails, according to the Greenway Trail System Master Plan, is three feet.
4. Design standards for bike and pedestrian-ways shall be determined by the city engineer. (Ord. 11-04 §2; Ord. 09-09 § 3; Ord. 02-33; Ord. 99-22)

18.810.120 Utilities

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18.810.130 Cash or Bond Required

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18.810.140 Monuments—Replacement Required.

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18.810.150 Installation Prerequisite

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18.810.160 Installation Conformation

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18.810.170 Plan Check

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18.810.180 Notice to City

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18.810.190 City Inspection of Improvements

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18.810.200 Engineer’s Written Certification Required

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18.810.210 Completion Requirements (To be completed.) ■