

## **1007 ROADS AND CONNECTIVITY**

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### **1007.01 PURPOSE**

Section 1007 is adopted to:

- A. Provide for safe, efficient, convenient, and economical movement of vehicles, freight, transit, bicycles, and pedestrians on a balanced and sustainable transportation system network;
- B. Implement the provisions of Chapters 5 and 10 of the Comprehensive Plan pertaining to the design and construction of necessary transportation system improvements required in conjunction with new development;
- C. Protect public safety through functional, efficiently designed improvements addressing the impact of new development upon the roadway system;
- D. Support sustainable development by efficient utilization of land and resources;
- E. Facilitate and encourage the use of non-auto modes of transportation, such as transit, walking, and bicycling;
- F. Provide a highly interconnected transportation system with suitable access and route choices for pedestrians, bicyclists, and drivers;
- G. Support improved public health by providing safe and attractive pedestrian and bicycle facilities;
- H. Reduce vehicle miles traveled;
- I. Create walkable centers, corridors, and neighborhoods with pedestrian, bicycle, and vehicular connections within and between destinations;
- J. Reduce impacts from the transportation system on vegetation, natural features, neighborhoods, and public facilities; and
- K. Recognize and support the importance of streets and streetscapes as an ubiquitous aspect of the public realm in our landscape, and build streets that support and enhance community interaction.

### **1007.02 APPLICABILITY**

Section 1007 applies to the design of new and reconstructed transportation improvements in public rights-of-way, private roads, and accessways required through development permit approvals that are subject to Section 1007.

1007.03 GENERAL PROVISIONS

- A. The location, alignment, design, grade, width, and capacity of all roads shall be planned, coordinated, and controlled by the Department of Transportation and Development and shall conform to Section 1007, Chapters 5 and 10 of the Comprehensive Plan, and the Clackamas County Roadway Standards. Where conflicts occur between Section 1007, the Comprehensive Plan, and the Clackamas County Roadway Standards, the Comprehensive Plan shall control.
  
- B. Right-of-way dedications and improvements shall be required of all new developments, including partitions, subdivisions, multifamily dwellings, two- and three-family dwellings, condominiums, single-family dwellings, and commercial, industrial, and institutional uses, as deemed necessary by the Department of Transportation and Development and consistent with Section 1007, Chapters 5 and 10 of the Comprehensive Plan, and the Clackamas County Roadway Standards.
  
- C. New developments shall have access points connecting with existing private, public, county, or state roads.
  - 1. Intersection spacing and access control shall be based on Subsection 3.08.110(E) of the Metro Code (*Regional Transportation Functional Plan*); Chapters 5 and 10 of the Comprehensive Plan; and the Clackamas County Roadway Standards.
  
  - 2. For development on any portion of a contiguous site identified on Comprehensive Plan Map 5-6, *Potentially Buildable Residential Sites > 5 Acres in UGB*, the applicant shall provide a conceptual map of new streets for the entire site. The map shall identify street connections to adjacent areas to promote a logical, direct, and connected system of streets; demonstrate opportunities to extend and connect new streets to existing streets, and provide direct public right-of-way routes. Closed-end street designs shall be limited to circumstances in which barriers prevent full street extensions. Closed-end streets shall not exceed 200 feet in length and shall serve no more than 25 dwelling units. Subsequent development on the site shall conform to the conceptual street map, unless a new map is approved pursuant to Subsection 1007.03(C)(2).
  
  - 3. Access control shall be implemented pursuant to Chapter 5 of the Comprehensive Plan and the Clackamas County Roadway Standards considering best spacing for pedestrian access, traffic safety, and similar factors as deemed appropriate by the Department of Transportation and Development.

4. Approaches to public and county roads shall be designed to accommodate safe and efficient flow of traffic and turn control where necessary to minimize hazards for other vehicles, pedestrians, and bicyclists.
  5. Joint access and circulation drives utilizing reciprocal easements shall be utilized as deemed necessary by the Department of Transportation and Development. In the NC District, joint street access for adjacent commercial developments shall be required.
  6. Access to state highways shall require a road approach permit issued by the Oregon Department of Transportation pursuant to Oregon Revised Statutes Chapter 374.
  7. In the SCMU District, driveways shall be spaced no closer to one another than 35 feet, measured from the outer edge of the curb cut, unless compliance with this standard would preclude adequate access to the subject property as a result of existing off-site development or compliance with the Clackamas County Roadway Standards.
- D. Street alignments, intersections, and centerline deflection angles shall be designed according to the standards set forth in Chapters 5 and 10 of the Comprehensive Plan and the Clackamas County Roadway Standards.
  - E. All roads shall be designed and constructed to adequately and safely accommodate vehicles, pedestrians, and bicycles according to Chapters 5 and 10 of the Comprehensive Plan and the Clackamas County Roadway Standards. Development-related roadway adequacy and safety impacts to roadways shall be evaluated pursuant to the Clackamas County Roadway Standards and also to Oregon Department of Transportation standards for state highways.
  - F. Roadways shall be designed to accommodate transit services where transit service is existing or planned and to provide for the separation of motor vehicles, bicycle, and pedestrian traffic, and other modes as appropriate.
  - G. The needs of all modes of transportation shall be balanced to provide for safe and efficient flow of traffic. Where practical, pedestrian crossing lengths shall be minimized and the road system shall be designed to provide frequent pedestrian connections.

#### 1007.04 PUBLIC AND PRIVATE ROADWAYS

- A. All roadways shall be developed according to the classifications, guidelines, tables, figures, and maps in Chapters 5 and 10 of the Comprehensive Plan and the provisions of the Clackamas County Roadway Standards.

1. Development along streets with specific design standards specified in Chapter 10 of the Comprehensive Plan shall improve those streets as shown in Chapter 10.
2. Development along streets identified as Regional or Community Boulevards on Comprehensive Plan Map 5-5, *Metro Regional Street Design Classifications*, shall provide pedestrian, bicycle, transit, and visual amenities in the public right-of-way. Such amenities may include, but are not limited to, the following: street trees, landscaping, kiosks, outdoor lighting, outdoor seating, bike racks, bus shelters, other transit amenities, pedestrian spaces and access to the boulevard, landscaped medians, noise and pollution control measures, other environmentally sensitive uses, aesthetically designed lights, bridges, signs, and turn bays as appropriate rather than continuous turn lanes.
3. Development adjacent to scenic roads identified on Comprehensive Plan Map 5-1, *Scenic Roads*, shall conform to the following design standards, as deemed appropriate by the Department of Transportation and Development:
  - a. Road shoulders shall be improved to accommodate pedestrian and bicycle traffic; and
  - b. Turnouts shall be provided at viewpoints or for recreational needs.
4. In centers, corridors, and station communities, as identified on Comprehensive Plan Map IV-8, *Urban Growth Concept*, roads shall be designed to minimize the length of street crossings and to maximize connectivity for pedestrians as deemed appropriate by the Department of Transportation and Development. Other streetscape design elements in these areas include:
  - a. On-street parking;
  - b. Street trees;
  - c. Street lighting;
  - d. Pedestrian amenities; and
  - e. Truck routes shall be specified for deliveries to local businesses.
5. In centers, corridors, and station communities, as identified on Comprehensive Plan Map IV-8, on local streets within the Portland Metropolitan Urban Growth Boundary (UGB), and in unincorporated communities, when conflicts exist between the dimensional requirements for vehicles and those for pedestrians, pedestrians shall be afforded additional consideration in order to increase safety and walkability. In industrial areas, the needs of vehicles shall take precedence.

6. In the NC, OA, VCS, and VO Districts, landscaping, crosswalks, additional lighting, signalization, or similar improvements may be required to create safe and inviting places for pedestrians to cross streets.
- B. The layout of new public and county roads shall provide for the continuation of roads within and between the development and adjoining developments when deemed necessary and feasible by the Department of Transportation and Development.
1. When public access to adjoining property is required, this access shall be improved and dedicated to the County.
  2. Street stubs shall be provided to allow for future access to adjacent undeveloped property as deemed necessary by the Department of Transportation and Development.
  3. These standards may be deviated from when the County finds that safe and efficient alternate designs would better accommodate:
    - a. Sustainable development features such as “Green Streets” as described in Metro’s *Green Streets: Innovative Solutions for Stormwater and Street Crossings (2002)*, which shall be allowed within the UGB and in unincorporated communities;
    - b. Sustainable surface water management solutions such as low infiltration planters and basins, swales, ponds, rain gardens, trees, porous pavement, and minimal disruption to natural drainage systems;
    - c. Preservation of existing significant trees and native vegetation;
    - d. Preservation of natural terrain and other natural landscape features;
    - e. Achievement of maximum solar benefit for new development through orientation and block sizing;
    - f. Existing forest or agricultural uses;
    - g. Existing development;
    - h. Scenic qualities;
    - i. Planned unit developments;
    - j. Local access streets less than 200 feet in length which are not extendible; and
    - k. Interior vehicular circulation for multifamily, commercial, institutional, and industrial developments.

- C. New county and public roads terminating in cul-de-sacs or other dead-end turnarounds are prohibited except where natural features (such as topography, streams, or wetlands), parks, dedicated open space, or existing development preclude road connections to adjacent properties, existing street stubs, or existing roads.
- D. Developments shall comply with the intersection sight distance and roadside clear zone standards of the Clackamas County Roadway Standards. In addition:
  - 1. No planting, signing, or fencing shall be permitted which restricts motorists' vision; and
  - 2. Curbside parking may be restricted along streets with visibility problems for motorists, pedestrians, and/or bicyclists as deemed appropriate by the Department of Transportation and Development.
- E. New developments, subdivisions, and partitions may be required to dedicate land for right-of-way purposes and/or make road frontage improvements to existing rights-of-way as deemed necessary by the Department of Transportation and Development and consistent with Section 1007, Chapters 5 and 10 of the Comprehensive Plan, and the Clackamas County Roadway Standards.
- F. Road frontage improvements within the UGB and in Mt. Hood urban villages shall include:
  - 1. Surfacing, curbing, or concrete gutters as specified in Section 1007, Chapters 5 and 10 of the Comprehensive Plan, and the Clackamas County Roadway Standards;
  - 2. Pedestrian, bikeway, accessway, and trail facilities as specified in Subsection 1007.06;
  - 3. Transit amenities as specified in Subsection 1007.07; and
  - 4. Street trees as specified in Subsection 1007.08.
- G. Within public and county rights-of-way, the following uses may be permitted, subject to compliance with the Clackamas County Roadway Standards:
  - 1. Solar energy systems owned and operated by a public entity or utility;
  - 2. Electric vehicle charging stations owned and operated by a public entity or utility; and
  - 3. On-street parking within the UGB.

1007.05 PRIVATE ROADS AND ACCESS DRIVES

- A. Private roads and access drives shall be developed according to classifications and guidelines listed in Section 1007, Comprehensive Plan Figures 5-1 through 5-3, *Typical Roadway Cross Sections*, Chapters 5 and 10 of the Comprehensive Plan, and the Clackamas County Roadway Standards, except:
  - 1. When easements or “flag-pole” strips are used to provide vehicular access to lots or parcels, the minimum width shall be 20 feet, unless a narrower width is approved by the Department of Transportation and Development and the applicable fire district’s Fire Marshal;
  - 2. Where the number of lots served exceeds three, a wider width may be required as deemed appropriate or necessary by the Department of Transportation and Development consistent with other provisions of Section 1007, the Comprehensive Plan, and the Clackamas County Roadway Standards;
  - 3. Access easements or “flag-pole” strips may be used for utility purposes in addition to vehicular access;
  - 4. The standards listed above may be deviated from when deemed appropriate by the Department of Transportation and Development to accommodate one-half streets or private common access drives and roads within developed urban areas providing access to not more than seven lots; and
  - 5. The intersection of private roads or access drives with a public or county road and intersections of two private roads or access drives shall comply with the sight distance and clear zone standards pursuant to Subsection 1007.04(D).

1007.06 PEDESTRIAN AND BICYCLE FACILITIES

- A. General Standards: Pedestrian and bicycle facilities shall be developed according to the classifications and guidelines listed in Section 1007, Comprehensive Plan Figures 5-1 through 5-3, *Typical Roadway Cross Sections*, Chapters 5 and 10 of the Comprehensive Plan, and the Clackamas County Roadway Standards.
- B. Pedestrian and Bicycle Facility Design: Pedestrian and bicycle facilities shall be designed to:
  - 1. Minimize conflicts among automobiles, trucks, pedestrians, and bicyclists;
  - 2. Provide safe, convenient, and an appropriate level of access to various parts of the development and to locations such as schools, employment centers, shopping areas, adjacent developments, recreation areas and open space, and transit corridors;

3. Allow for unobstructed movements and access for transportation of disadvantaged persons; and
  4. Be consistent with Chapters 5 and 10 of the Comprehensive Plan; Comprehensive Plan Maps 5-2a, *Planned Bikeway Network, Urban*, 5-2b, *Planned Bikeway Network, Rural*, and 5-3, *Essential Pedestrian Network*; North Clackamas Parks and Recreation District's (NCPRD) Park and Recreation Master Plan; and Metro's Regional Trails and Greenways Map.
- C. Requirements for Pedestrian and Bicycle Facility Construction: Within the Portland Metropolitan Urban Growth Boundary (UGB), sidewalks, pedestrian pathways, and accessways shall be constructed as required in Subsection 1007.06 for subdivisions, partitions, multifamily dwellings, three-family dwellings, attached single-family dwellings where three or more dwelling units are attached to one another, and commercial, industrial, or institutional developments, except that for structural additions to existing commercial, industrial, or institutional buildings, development of such facilities shall be required only if the addition exceeds 10 percent of the assessed value of the existing structure, or 999 square feet.
- D. Requirement for Sidewalk Construction: Within the UGB, sidewalks shall be constructed, as required in Subsection 1007.06(F), for two-family dwellings, detached single-family dwellings, attached single-family dwellings where two dwelling units are attached to one another, and manufactured dwellings outside a manufactured dwelling park.
- E. Sidewalks or Pedestrian Pathways in Unincorporated Communities: In an unincorporated community, either a sidewalk or a pedestrian pathway shall be constructed on arterial or collector street frontage(s) of a lot upon which a subdivision, partition, multifamily dwelling, three-family dwelling, attached single-family dwelling where three or more dwelling units are attached to one another, or a commercial, industrial, or institutional development is proposed.
- F. Sidewalk Location: Sidewalks required by Subsection 1007.06(C) or (D) shall be constructed on:
1. Both sides of a new or reconstructed road, except that sidewalks may be constructed on only one side of the road if:
    - a. The road is not a through road;
    - b. The road is 350 feet or less in length and cannot be extended; or
    - c. In consideration of the factors listed in Subsection 1007.04(B)(3).

2. The street frontage(s) of a lot upon which a subdivision, partition, multifamily dwelling, three-family dwelling, attached single-family dwelling where three or more dwelling units are attached to one another, or a commercial, industrial, or institutional development is proposed; and
  3. Local or collector road street frontage(s) of a lot upon which a two-family dwelling, a detached single-family dwelling, an attached single-family dwelling where two dwelling units are attached to one another, or a manufactured dwelling is proposed. This requirement shall be imposed as a condition on the issuance of a conditional use permit, building permit, or manufactured dwelling placement permit, but
    - a. The requirement shall be waived if the dwelling is a replacement for one destroyed by an unplanned fire or natural disaster; and
    - b. The sidewalk requirement shall apply to no more than two street frontages for a single lot.
- G. Pedestrian Pathways: Within the UGB, a pedestrian pathway may be constructed as an alternative to a sidewalk on a local or collector road when it is recommended by the Department of Transportation and Development; the surface water management regulatory authority approves the design; and at least one of the following criteria is met:
1. The site has topographic or natural feature constraints that make standard sidewalk construction unusually problematic;
  2. No sidewalk exists adjacent to the site;
  3. Redevelopment potential along the road is limited; or
  4. The road is identified for a pedestrian pathway by the River Forest Neighborhood Plan adopted by the City of Lake Oswego.
- H. Sidewalk and Pedestrian Pathway Width: Sidewalks and pedestrian pathways shall be constructed to the minimum widths shown in Table 1007-1, *Minimum Sidewalk and Pedestrian Pathway Width*, and be consistent with applicable requirements of Chapters 5 and 10 of the Comprehensive Plan.

**Table 1007-1: Minimum Sidewalk and Pedestrian Pathway Width**

<b>Street Type</b>	<b>Residential Sidewalk</b>	<b>Commercial or Institutional Sidewalk</b>	<b>Industrial Sidewalk</b>
Local	5 feet	7 feet	5 feet
Connector	5 feet	7 feet	5 feet
Collector	5 feet	8 feet	5 feet
Arterial	6 feet	8 feet	6 feet

1. The entire required width of sidewalks and pedestrian pathways shall be unobstructed.
2. Sidewalks and pedestrian pathways at transit stops shall be a minimum of eight feet wide for a distance of 20 feet centered on the transit shelter or transit stop sign.
3. A sidewalk set back from the curb by at least five feet may be one foot narrower (but not less than five feet) than the standard listed above. This five-foot separation strip shall be landscaped and shall be maintained by the adjacent property owner. The landscape strip may contain fixed objects provided that sight distance and roadside clear zone standards are satisfied pursuant to the Clackamas County Roadway Standards.
4. Uses located in the Campus Industrial, Light Industrial, General Industrial, or Business Park District and containing over 5,000 square feet of office space shall comply with the requirements for Commercial and Institutional uses.
  - I. Accessways: Accessways shall comply with the following standards:
    1. Accessways shall be required where necessary to provide direct routes to destinations not otherwise provided by the road system and where topography permits. Developments shall not be required to provide right-of-way for accessways off-site to meet this requirement. If right-of-way is available off-site, the developer may be required to improve an accessway off-site up to 150 feet in length.

2. Accessways shall provide safe, convenient access to facilities generating substantial pedestrian or bicycle trips, such as an existing or planned transit stop, school, park, church, daycare center, library, commercial area, or community center. Facilities such as these shall be accessible from dead-end streets, loops, or mid-block locations. Where required, accessways shall be constructed at intervals of no more than 330 feet, unless they are prevented by barriers such as topography, railroads, freeways, pre-existing development, or environmental constraints such as streams and wetlands.
  3. An accessway shall include at least a 15-foot-wide right-of-way and an eight-foot-wide hard surface. For safety, accessways should be as straight as practicable and visible from an adjacent use if practicable. Removable bollards or other large objects may be used to bar motor vehicular access.
  4. So that they may be safely used at night, accessways shall be illuminated by street lights or luminaires on shorter poles. Separate lighting shall not be required if existing lighting adequately illuminates the accessway.
  5. Fences are not required, but the height of a fence along an accessway shall not exceed six feet.
  6. Ownership and maintenance responsibility for accessways shall be resolved during the development review and approval process.
- J. Accessways in Sunnyside Village: The following standards apply in Sunnyside Village, as identified on Comprehensive Plan Map X-SV-1, *Sunnyside Village Plan Land Use Plan Map*, hereinafter referred to as Sunnyside Village. Where these standards conflict with Subsection 1007.06(I), Subsection 1007.06(J) shall take precedence.
1. A system of interconnecting accessways shall be provided from subdivisions and multifamily developments to commercial facilities and public amenities such as existing or planned transit stop or facility, school, park, church, daycare facility, children's play area, outdoor activity areas, plazas, library, or similar facility and to a dead-end street, loop, or mid-block where the block is longer than 600 feet.
    - a. An accessway shall include at least 15 feet of right-of-way and a 10-foot-wide paved surface.
    - b. Accessways shall be illuminated so that they may be safely used at night.
    - c. The maximum height of a fence along an accessway shall not exceed four feet.
    - d. Bollards or other similar types of treatment may be required in order to prevent cars from entering the accessway.

- e. The designated east-west pedestrian accessway shall include a minimum 10-foot-wide concrete surface within a 10-foot-wide right-of-way, easement, or other legal form satisfactory to the County. Planting areas adjacent to the easement with street trees should be provided along at least one side of this accessway. However, alternatives to this standard may be considered through design review pursuant to Section 1102. If the accessway is within a parking area, it shall be lined by parking lot trees planted at a maximum of 30 feet on center along both sides.

K. Bikeways: Bikeways shall be required as follows:

1. Shoulder bikeways, bike lanes, bike paths, or cycle tracks shall be included in the reconstruction or new construction of any street if a bikeway is indicated in Chapters 5 and 10 of the Comprehensive Plan and on Comprehensive Plan Map 5-2a or 5-2b; NCPRD's Park and Recreation Master Plan; or Metro's Regional Trails and Greenways Map.
2. Shoulder bikeways, bike lanes, bike paths, or cycle tracks shall be considered in the reconstruction or new construction of any other arterial or collector.
3. Within urban growth boundaries, shoulder bikeways, bike lanes, bike paths, or cycle tracks shall be constructed from new public or private elementary, middle school, and high school facilities to off-site bikeways to provide continuous bicycle route connections within and between surrounding developments, unless precluded by existing development.

L. Trails: Trail dedications or easements shall be provided and developed as shown on Comprehensive Plan Map IX-1, *Open Space Network & Recreation Needs*; the Facilities Plan (Figure 4.3) in NCPRD's Park and Recreation Master Plan; and Metro's Regional Trails and Greenways Map.

M. Trails and Pedestrian Connections in Sunnyside Village: The following standards apply in Sunnyside Village. Where these standards conflict with other provisions in Section 1007, Subsection 1007.06(M) shall take precedence.

1. An interconnecting system of trails and accessways throughout Sunnyside Village shall be provided. The general trail locations are shown on Comprehensive Plan Map X-SV-1. The location of the trails shall be set at the time a land use application is approved. The locations of the trails are based on achieving connections to streets and/or pedestrian ways and protection of the significant features of the resource protection areas.
2. The trail system will generally occur along the creeks and resource protection areas. The accessways and/or trail system will provide connections to parks, the elementary school, and to adjacent commercial and residential developments.

3. There also shall be an east-west accessway between 142<sup>nd</sup> Avenue and 152<sup>nd</sup> Drive, south of Sunnyside Road and north of Oregon Trail Drive.
4. The trail system shall be designed to provide multiple access points for the public. The trails shall be constructed by the developer.
5. All trails and accessways within the resource protection areas shall either be dedicated or an easement granted to NCPRD in conjunction with development. These connections shall be maintained by and constructed to the standards established by NCPRD.
6. The maintenance of all pedestrian connections and trails located outside the resource protection areas as identified on Comprehensive Plan Map X-SV-1 shall be the responsibility of the property owner.

N. Pedestrian and Bicycle Circulation: The pedestrian and bicycle circulation connections shown on Comprehensive Plan Maps X-CRC-3, *Clackamas Regional Center Area Design Plan Urban Design Elements*, X-CRC-7, *Clackamas Regional Center Area Design Plan Pedestrian and Bicycle Circulation Network*, and X-CRC-7a, *Clackamas Regional Center Area Design Plan Walkway Network*, shall be provided.

#### 1007.07 TRANSIT AMENITIES

All residential, commercial, institutional, and industrial developments on existing and planned transit routes shall be reviewed by Tri-Met or other appropriate transit provider to ensure appropriate design and integration of transit amenities into the development. The design shall not be limited to streets, but shall ensure that pedestrian/bikeway facilities and other transit-supportive features such as shelters, bus pull-outs, park-and-ride spaces, and signing will be provided. The designs shall comply with Tri-Met standards and specifications.

#### 1007.08 STREET TREES

A. Within the Portland Metropolitan Urban Growth Boundary, street trees are required on all road frontage—except frontage on private roads or access drives—for subdivisions, partitions, multifamily dwellings, three-family dwellings, attached single-family dwellings where three or more dwelling units are attached to one another, and commercial, industrial, or institutional developments, except that for structural additions to existing commercial, industrial, or institutional buildings, street trees are required only if the addition exceeds 10 percent of the assessed value of the existing structure, or 999 square feet. Street trees shall comply with the following standards:

1. Partial or complete exemptions from the requirement to plant street trees may be granted on a case-by-case basis. Exemptions may be granted, for example, if the exemption is necessary to save existing significant trees which can be used as a substitute for street trees.
2. Street trees to be planted shall be chosen from a County-approved list of street trees (if adopted), unless approval for planting of another species is given by the Department of Transportation and Development. Trees listed in Table 1007-2, *Prohibited Street Trees*, shall not be planted as street trees.
3. Location and planting of street trees may be influenced by such conditions as topography, steep terrain, soil conditions, existing trees and vegetation, preservation of desirable views, and solar access.
4. Planting of street trees shall be coordinated with other uses which may occur within the street right-of-way, such as bikeways, pedestrian paths, storm drains, utilities, street lights, shelters, and bus stops.
5. Street trees at maturity shall be of appropriate size and scale to complement the width of the street or median area.

**Table 1007-2: Prohibited Street Trees**

Scientific Name	Common Name	Reason for Prohibition
Acer macrophyllum	Big-leaf Maple	Leaves block drainage; Roots buckle sidewalks
Acer negundo	Box Elder	Insect prone; Weak wood
Acer saccharinum	Silver Maple	Shallow roots; Weak wood
Aesculus hippocastanum	Common Horsechestnut	Messy fruits
Betulus species	Birches	Insect prone; Weak wood
Carya species	Hickories	Fruits cause litter and safety problems
Catalpa species	Catalpas	Seed pods cause litter problem
Corylus species	Filberts	Fruits cause litter and safety problems

Scientific Name	Common Name	Reason for Prohibition
Crataegus species	Hawthorns	Thorns; Fruits cause litter and safety problems
Fraxinus species	Ashes	Seed pods cause litter problem
Gleditsia triacanthos	Honey Locust (species, does not include horticultural variants)	Seed pods cause litter problem
Juglans species	Walnuts	Fruits cause litter problem
Morus species	Mulberries	Fruits cause litter and safety problems
Populus species	Poplars	Shallow roots; Weak wood
Robinia species	Locusts	Weak wood; Suckers
Salix Species	Willows	Shallow roots; Weak wood
Ulmus fulva	Slippery Elm	Insect prone; Shallow roots; Weak wood
Ulmus pumila	Siberian Elm	Shallow roots; Weak wood

B. Street trees required for developments in the Clackamas Regional Center Area, as identified on Comprehensive Plan Map X-CRC-1, *Clackamas Regional Center Area Design Plan Regional Center, Corridors, and Station Community*, shall comply with the following standards:

1. Street trees are required along all streets, except for drive aisles in parking lots.
2. When determining the location of street trees, consideration should be given to accommodating normal retail practices in front of buildings such as signage, outdoor display, loading areas, and pullout lanes.
3. Street trees are required along private access streets under the following conditions:
  - a. On both sides when the access point is a signalized intersection;

- b. On both sides when the street section has four or more lanes at the access point;
  - c. On both sides when the private street is developed to comply with building orientation standards;
  - d. On a minimum of one side when the street section has one or two lanes, and the street is not at a signalized intersection or is not used to meet the structure orientation standards of Subsections 1700.03(C) and 1700.04(B); and
  - e. On a minimum of one side of the street when access is shared with adjacent property. Adjoining property shall be required to install trees on its side of the access street when the property is developed.
4. In the Fuller Road Station Community, as identified on Comprehensive Plan Map X-CRC-1, street trees are required along both sides of all street types, and as shown in Comprehensive Plan Figure X-CRC-11, *Clackamas Regional Center Area Design Plan Fuller Road Station Community, Type "E" Pedestrian/Bicycle Connection*, for Type E pedestrian/bicycle connections. Street trees shall be spaced from 25 to 40 feet on center, based on the selected tree species and any site constraints. Street trees shall otherwise comply with the other provisions of Subsections 1007.08(A) and (B).
- C. In the Business Park District, street trees are required at 30- to 40-foot intervals along periphery and internal circulation roads, except where significant trees already exist.
- D. Street trees are required for developments in the Sunnyside Village Community Plan area, as identified on Comprehensive Plan Map X-SV-1, *Sunnyside Village Plan Land Use Plan Map*, along both sides of all connector and local streets, and as set forth in Subsection 1007.11. In addition:
- 1. One to two street trees are required per interior lot, and two to four for corner lots depending on the canopy of the tree species proposed. If a small canopy (less than or equal to 25 feet in diameter at maturity) is proposed, then two per interior lot and four per corner lot are required. If a larger canopy (greater than 25 feet in diameter at maturity) is proposed, then one per interior lot and two per corner lot are required.
  - 2. As each portion of a project is developed, a specific species of street tree will be chosen for each street. The developer may choose the species of street tree to be planted so long as the species is not known to cause sidewalks to buckle, does not have messy fruits or pods, is not prone to insects or having weak wood, and is not on the list of prohibited trees. The County will have final approval regarding the type of street tree to be planted.

3. Along connector streets or streets with a higher classification, metal grating, non-mortared brick, grasscrete, or similar material shall be installed at grade over the planting area around street trees, or raised planters shall be constructed to prevent soil compaction and damage to the trunk. Landscape strips or tree wells are required along streets with a classification below connector status.

#### 1007.09 TRANSPORTATION FACILITIES CONCURRENCY

- A. The purpose of Subsection 1007.09 is to ensure that transportation infrastructure is provided concurrently with the new development it is required to serve or, within a reasonable period of time following the approval of new development.
- B. Subsection 1007.09 shall apply to the following development applications: design review, subdivisions, partitions, and conditional uses.
- C. Approval of a development shall be granted only if the capacity of transportation facilities is adequate or will be made adequate in a timely manner. The following shall be exempt from this requirement:
  1. Development that is located:
    - a. In the Light Industrial, General Industrial, or Business Park District; and
    - b. North of the Clackamas River; and
    - c. West of Highway 224 (south of Highway 212) or 152<sup>nd</sup> Drive (north of Highway 212); and
    - d. South of Sunnyside Road (east of 82<sup>nd</sup> Avenue) or Harmony Road (west of 82<sup>nd</sup> Avenue) or Railroad Avenue (west of Harmony Road); and
    - e. East of Interstate 205 (south of Milwaukie Expressway) or the city limits of Milwaukie (north of the Milwaukie Expressway).
  2. Modification or replacement of an existing development (or a development that has a current land use approval even if such development has not yet been constructed) on the same property, provided that an increase in motor vehicle traffic does not result;
  3. Unmanned utility facilities, such as wireless telecommunication facilities, where no employees are present except to perform periodic servicing and maintenance;
  4. Mass transit facilities, such as light rail transit stations and park-and-ride lots;

5. Home occupations to host events, which are approved pursuant to Section 806; and
  6. Development in the Government Camp Village, as shown on Comprehensive Plan Map X-MH-4, *Government Camp Village Plan Land Use Plan & Boundary*, that is otherwise consistent with the Comprehensive Plan and zoning designations for the Village.
- D. As used in Subsection 1007.09(C), “adequate” means a maximum volume-to-capacity ratio (v/c), or a minimum level of service (LOS) , as established by Comprehensive Plan Tables 5-2a, *Performance Evaluation Measures for the Urban Area*, and 5-2b, *Performance Evaluation Measures for the Rural Area*.
- E. For the purpose of calculating capacity as required by Subsections 1007.09(C) and (D), the following standards shall apply:
1. The methods of calculating v/c and LOS are established by the Clackamas County Roadway Standards, except that the method of calculating capacity on state facilities is established by the Oregon Highway Plan.
  2. The minimum capacity standards shall apply to all roadways and intersections within the impact area of the proposed development. The impact area shall be established by the Clackamas County Roadway Standards.
  3. Capacity shall be evaluated for motor vehicle traffic only.
- F. As used in Subsection 1007.09(C), “timely” means:
1. For facilities under the jurisdiction of the County, necessary improvements are included in the Five-Year Capital Improvement Program, fully funded, and scheduled to be under construction within three years of the date land use approval is issued;
  2. For facilities under the jurisdiction of the State of Oregon, necessary improvements are included in the Statewide Transportation Improvement Plan and scheduled to be under construction within four years of the date land use approval is issued;
  3. For facilities under the jurisdiction of a city or another county, necessary improvements are included in that jurisdiction’s capital improvement plan, fully funded, and scheduled to be under construction within three years of the date land use approval is issued.
  4. Alternatively, “timely” means that necessary improvements will be constructed by the applicant or through another mechanism, such as a local improvement district. Under this alternative:

- a. Prior to issuance of a certificate of occupancy for a conditional use or a development subject to design review and prior to recording of the final plat for a subdivision or partition, the applicant shall do one of the following:
    - i. Complete the necessary improvements; or
    - ii. For transportation facilities under the jurisdiction of the County, the applicant shall provide the county with a deposit, letter of credit, performance bond, or other surety satisfactory to county staff pursuant to Section 1311, *Completion of Improvements, Sureties, and Maintenance*. For transportation facilities under the jurisdiction of the state, a city, or another county, the applicant shall comply with the respective jurisdiction's requirements for guaranteeing completion of necessary improvements. This option is only available if the jurisdiction has a mechanism in place for providing such a guarantee.
5. For a phased development, the first phase shall satisfy Subsections 1007.09(F)(1) through (4) at the time of land use approval. Subsequent phases shall be subject to the following:
- a. At the time of land use approval, necessary improvements shall be identified and the phase for which they are necessary shall be specified.
  - b. Necessary improvements for a particular phase shall either:
    - i. Comply with Subsections 1007.09(F)(1) through (3) at the time of building permit approval, except that the improvements shall be scheduled to be under construction within three years of building permit approval rather than within three years of land use approval; or
    - ii. Comply with Subsection 1007.09(F)(4), in which case the improvements shall be completed or guaranteed prior to issuance of a certificate of occupancy or recording of the final plat for the applicable phase.
- G. As used in Subsection 1007.09(F), "necessary improvements" are:
- 1. Improvements identified in a transportation impact study as being required in order to comply with the adequacy standard identified in Subsection 1007.09(D).
    - a. A determination regarding whether submittal of a transportation impact study is required shall be made based on the Clackamas County Roadway Standards, which also establish the minimum standards to which a transportation impact study shall adhere.

- b. If a transportation impact study is not required, County traffic engineering or transportation planning staff shall identify necessary improvements or the applicant may opt to provide a transportation impact study.
- H. As an alternative to compliance with Subsection 1007.09(C), the applicant may make a voluntary substantial contribution to the transportation system.
- 1. As used in this subsection, “substantial contribution” means construction of a roadway or intersection improvement that is all of the following:
    - a. A complete project or a segment of a roadway identified in Comprehensive Plan Table 5-3a, *20-Year Capital Projects*, 5-3b, *Preferred Capital Projects*, or 5-3c, *Long-Term Capital Projects*; the Statewide Transportation Improvement Plan (STIP); or the capital improvement plan (CIP) of a city or another county.
      - i. For a segment of a roadway to qualify as a substantial contribution, the roadway shall be on or abutting the subject property; no less than the entire segment that is on or abutting the subject property shall be completed; and there shall be a reasonable expectation that the entire project—as identified in Comprehensive Plan Table 5-3a, 5-3b, or 5-3c; the STIP; or the CIP of a city or another county—will be completed within five years;
    - b. Located within the impact area of the proposed development. The impact area shall be established by the Clackamas County Roadway Standards;
    - c. Estimated to have a minimum construction cost of \$527,000 in year 2004 dollars. The minimum construction cost shall on January 1<sup>st</sup> of each year following 2004 be adjusted to account for changes in the costs of acquiring and constructing transportation facilities. The adjustment factor shall be based on the change in average market value of undeveloped land, except resource properties, in the County according to the records of the County Tax Assessor, and the change in construction costs according to the Engineering News Record (ENR) Northwest (Seattle, Washington) Construction Cost Index; and shall be determined as follows:
      - i.  $\text{Change in Average Market Value} \times 0.50 + \text{Change in Construction Cost Index} \times 0.50 = \text{Minimum Construction Cost Adjustment Factor}$
      - ii. After the adjustment factor is applied to the previous year’s minimum construction cost, the result shall be rounded to the nearest thousand.
  - 2. Prior to issuance of a certificate of occupancy for a conditional use or a development subject to design review and prior to recording of the final plat for a subdivision or partition, the applicant shall do one of the following:

- a. Complete the substantial contribution; or
- b. For transportation facilities under the jurisdiction of the County, the applicant shall provide the county with a deposit, letter of credit, performance bond, or other surety satisfactory to county staff pursuant to Section 1311. For transportation facilities under the jurisdiction of the state, a city, or another county, the applicant shall comply with the respective jurisdiction's requirements for guaranteeing completion of necessary improvements. This option is only available if the jurisdiction has a mechanism in place for providing such a guarantee.

#### 1007.10 FEE IN LIEU OF CONSTRUCTION

For all or part of the road frontage improvements required by Section 1007; located within the Portland Metropolitan Urban Growth Boundary (UGB) and required for a partition, a two- or three-family dwelling (where no more than one such dwelling is proposed), an attached or detached single-family dwelling, or a manufactured dwelling; the developer may elect to pay a fee in lieu of construction as follows.

- A. The fee in lieu of construction may be paid if the road frontage improvements are located on a local or collector road that is not identified on Comprehensive Plan Map 5-3, *Essential Pedestrian Network*, and payment of the fee is deemed by the Department of Transportation and Development to be an acceptable alternative to construction of the required improvements; or
- B. The fee in lieu of construction may be paid if the road frontage improvements are located on a road that is identified on Comprehensive Plan Map 5-3; payment of the fee is deemed by the Department of Transportation and Development to be an acceptable alternative to construction of the required improvements; and at least one of the following criteria is met:
  1. The improvements are included in the Five-Year Capital Improvement Program;
  2. The improvements are located on a road where significant topographical or natural feature constraints exist; or
  3. The improvements are located on a local or collector road where a sidewalk or pathway does not exist within 200 feet of the required improvements.
- C. For a two-family dwelling, a detached single-family dwelling, an attached single-family dwelling where two dwelling units are attached to one another, or a manufactured dwelling, the fee in lieu of construction shall be \$25.00 per lineal foot of frontage. The fee shall be adjusted annually to account for the change in construction costs according to the Engineering News Record (ENR) Northwest (Seattle, Washington) Construction Cost Index. The annual adjustment shall be made in January on the date that the ENR publishes its first index of the year.

- D. For a partition, a three-family dwelling, or an attached single-family dwelling where three or more dwelling units are attached to one another, the fee in lieu of construction shall be equal to the estimated cost of constructing the required frontage improvements and shall be calculated as follows.
  - 1. A frontage improvement cost construction estimate acceptable to the Department of Transportation and Development shall be completed by an engineer who is registered by the State of Oregon.
  - 2. The elements to be considered when calculating the fee shall include, but shall not necessarily be limited to, mobilization/start-up, grading, rock, drainage, asphalt, curb, sidewalk, and retaining wall.
- E. All fees in lieu of improvements collected, and interest thereon, shall be placed in a "Sidewalk Improvement Fund." Fees shall be spent on sidewalk or pedestrian pathway construction on local or collector roads within the UGB.

1007.11 STREETS AND SIDEWALKS IN SUNNYSIDE VILLAGE

The following standards apply in Sunnyside Village. Where these standards conflict with other provisions in Section 1007, Subsection 1007.11 shall take precedence.

- A. Connector streets with bike lanes shall include two 10-foot-wide travel lanes, two six-inch-wide standard curbs, two seven-foot-wide parking strips, two four- to five-foot-wide planting strips, two four-foot-wide bike lanes, and two five-foot-wide sidewalks. The minimum right-of-way width shall be 61 to 63 feet, depending on the planting strip width. If commercial/retail are adjacent to the site, then nine-foot-wide sidewalks are required. (See Comprehensive Plan Figure X-SV-1, *Sunnyside Village Plan Connector Street with Planting Strips and Bike Lanes.*)
- B. Connector streets without bike lanes shall include two 10-foot-wide travel lanes, two six-inch-wide standard curbs, two seven-foot-wide parking strips, two four- to five-foot-wide planting strips, and two five-foot-wide sidewalks. The minimum right-of-way width shall be 53 to 55 feet, depending on the planting strip width. If commercial/retail is adjacent to the site, then nine-foot-wide sidewalks are required. (See Comprehensive Plan Figure X-SV-2, *Sunnyside Village Plan Connector Street with Planting Strips.*)
- C. Local streets shall include two eight-to-nine-foot-wide travel lanes, two six-inch-wide standard curbs, one eight-foot-wide parking strip, two five-foot-wide sidewalks, and two four-foot-wide tree planting strips. The right-of-way width shall be 43 to 45 feet. (See Comprehensive Plan Figure X-SV-5, *Sunnyside Village Plan Local Street with Planting Strips.*)

Cul-de-sacs are permitted only when topographic conditions or existing street patterns preclude extension of streets. The maximum radius shall be 40 feet.

- D. All streets adjacent to resource protection areas shall have at least one five-foot-wide sidewalk along one side of the street. If there are no significant trees (at least eight inches in diameter) along the resource protection area adjacent to the street, then a minimum four-foot-wide planting strip is required along both sides of the street. If it is determined that a unique view is to be preserved, then the Planning Director will determine if street trees are required.
- E. New street connections and private access driveways should be located along arterial and collector roadways within Sunnyside Village to provide safe and efficient traffic operations. New street connections along arterial streets are shown on Comprehensive Plan Map X-SV-3, *Sunnyside Village Plan Street Classifications*. New street connections to collector roadways shall be a minimum of 150 feet apart, measured road centerline to centerline.

New individual driveway connections shall not be permitted along arterial and collector roadways. The removal and/or consolidation of existing private driveways on arterial and collector streets should be investigated as redevelopment of properties occurs.

At existing or future major street intersections (existing or proposed traffic signals), no new driveways or street connections shall be allowed within the influence area of the intersection. The influence area is defined as the distance that vehicles will queue from the signalized intersection. The influence area shall be based upon traffic volumes summarized in the Sunnyside Area Master Plan (November 1994) or based upon information acceptable to the County Engineering Division. This influence area shall include an additional 100 feet beyond the queue length for back-to-back left turns.

The preferred minimum intersection spacing on minor arterials is 500 feet, measured road centerline to centerline. Major arterial intersection spacing is preferred to be between 600 feet and 1,000 feet, measured road centerline to centerline.

- F. The interior angles at intersection roadways shall be as near to 90 degrees as possible, and in no case shall it be less than 80 degrees or greater than 100 degrees. Minimum centerline radius for local roadways shall be 100 feet unless the alternative horizontal curve illustrated on Comprehensive Plan Figure X-SV-9, *Sunnyside Village Plan Alternative Horizontal Curve for Local Streets*, is used.
- G. Alleys shall be private streets with rights-of-way of 16 feet. (See Comprehensive Plan Figure X-SV-6, *Sunnyside Village Plan Alleys*.)

- H. A traffic circle will mark the heart of Sunnyside Village and will provide suitable geometrics for the five radial streets that converge at this point. Travel on the circle shall occur in one direction. This shall be facilitated by traffic diverters that guide vehicles but still allow comfortable pedestrian movement. The raised diverters should consist of low raised curbs and/or special paving. The travel lane within the circle should allow for easy merging.

Special paving shall demark crosswalks. Bike lanes shall be clearly marked and shall occur at the edge of the travel lane and define the inner boundary of the crosswalks and bus loading areas. The bus loading areas shall be located adjacent to the Village Commercial area. On the other side of the circle, this added dimension shall be used for planting strips with street trees, adjacent to nine-foot-wide sidewalks.

The center island shall have a radius of at least 30 feet and shall be landscaped. A vertical feature or monument identifying the entrance to Sunnyside Village should mark the center of the circle and shall be framed by blossoming trees.

- I. Intersection dimensions should be minimized to reduce pedestrian crossing-distances and slow vehicles. Curb radiuses should not exceed 25 feet at corners.
- J. For properties with frontage along 152nd Drive, adjacent to the proposed realignment of 152nd Drive, the applicant's share of costs associated with the realignment of 152nd Drive shall be limited to the dedication of required on-site right-of-way for the realignment of 152nd Drive as a collector street, and the guarantee of financing for the required on-site improvements, to collector-street standards, according to the requirements of the County Engineering Division.

#### 1007.12 VACATIONS

Road and Access Easement Vacations: In the RTL and CC Districts, road vacations shall be prohibited in developments unless replaced with a new road or walkway that serves the same function. The replacement does not have to be in the same alignment as long as it provides access to the same areas the vacated road would have if constructed.

#### 1007.13 TRAFFIC MANAGEMENT PLANS

In the OA and VO Districts, a traffic management plan shall be submitted with each development application. The plan shall address, but is not limited to, the following traffic management mechanisms:

- A. Physical site controls on existing traffic;
- B. P.M. peak hour existing traffic limitations;
- C. Traffic monitoring;

- D. Restrictions on the number of parking spaces;
- E. Transportation/transit information center;
- F. Flextime, staggered working hours; and
- G. Carpool and vanpool spaces and similar ride share programs.

[Amended by Ord. ZDO-224, 5/31/11; Amended by Ord. ZDO-230, 9/26/11; Amended by Ord. ZDO-232, 3/12/12; Amended by Ord. ZDO-246, 3/1/14; Amended by Ord. ZDO-250, 10/13/14; Amended by Ord. ZDO-253, 6/1/15]