

Chapter 1238 Geometric Cross Section – Streetside and Parking

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1238.01 General

The geometric cross section of a roadway is composed of different elements. The cross sections shown in [Chapter 1231](#) include parking and various zones within the streetside (see [Exhibit 1238-1](#)). This chapter provides information on parking and streetside elements. The need to provide a particular element is dependent on the context and modal needs for a given section of roadway.

1238.02 Parking

On-street parking is typically provided in urban and rural town center areas but is not necessarily required. On-street parking can help visually narrow the street in places to assist in conveying the surrounding context for the segment. Refer to municipal codes regarding parking requirements, and coordinate with the municipality involved. Also, if on-street parking will be either delineated or metered, the ADA has requirements on the number and configuration of parking stalls for people with disabilities. Consult with a regional ADA subject matter expert.

On-street parking can be either parallel or angled. However, angled parking on any state route requires approval from the State Transportation Operations Engineer.

Submit a request for angled parking approval through the Region Transportation Operation Office. Include an engineering study documenting that the parking will not unduly reduce safety and that the roadway is of sufficient width that parking will not interfere with the normal movement of traffic.

Provide for vehicle overhang within the furnishing zone for all angled parking locations. Consider back-in angled parking if bike lanes are present to improve conflict management through increased visibility.

When designing parking locations for freight loading areas, it is important to consider both the delivery vehicle size and how the vehicle loading/unloading is done. Consult with business owners and freight carriers to locate and configure the freight loading areas.

Width considerations: Cross sections in the Design Manual generally show a range for parallel parking of 7 to 9 feet. AASHTO defines a passenger car width as 7 feet. Additional width can allow a buffer for car doors opening, a buffer for bike riders, or a stall that can accommodate delivery trucks.

Work with stakeholders to determine the appropriate width to provide within the site-specific constraints.

1238.03 Streetside

The area behind the curb is referred to as the “streetside” and is described in terms of “zones.” Information about each zone is provided below. Note, local agency partners may have policy containing additional streetside zones to consider.

WSDOT uses the following terminology to describe the zones found within the streetside:

- Frontage Zone
- Pedestrian Zone
- Furnishing Zone

Exhibit 1238-1 Zones within the Streetside



The streetside is the interface between pedestrians and land use. A robust streetside can serve as both a pedestrian thoroughfare and a destination, which is desirable in many urban core and main street contexts to help promote economic vitality. The streetside can also reinforce the target speed. The pedestrian zone will always be present in streetside design, but other zones are optional and dependent on the modal and contextual needs and desired balance of performance needs within the available right of way.

The Americans with Disabilities Act (ADA) requires specific design element dimensions for streetside elements, depending on the configuration. In general, the pedestrian zone and frontage zone will always be part of the pedestrian circulation path (PCP). The furnishing zone may or may not be part of the PCP, depending on how it is designed. See [Chapter 1510](#) for detailed accessibility criteria and design guidance for pedestrian facilities.

1238.03(1) Frontage Zone

The frontage zone serves the retail functions, and is the portion of the sidewalk that provides the connection to the building. The frontage zone includes the building, the façade, and the space immediately adjacent to the building. The primary purpose is access to retail space without interfering with the required pedestrian access route (PAR) within the pedestrian zone. The frontage zone may also provide space for sidewalk cafes, temporary retail product displays, advertisements, and/or outdoor seating for customers. If there is no retail or residential access need adjacent to the streetside, a frontage zone may not be necessary.

Width considerations: Cross sections in Design Manual generally show a range for the frontage zone width of 2 to 12 feet.

Narrow, 2-ft frontage zones provide for a clear area where protruding objects from the building can be located without compromising the pedestrian access route. Two feet also provides an offset from the building and minimal space for entering/exiting the building.

Wider frontage zones, such as 12-ft can provide width for a variety of possible elements, such as sidewalk café dining with tables and chairs along the building. If a frontage zone is to be provided, work with stakeholders to determine the appropriate width to provide within the site-specific constraints.

1238.03(2) Pedestrian Zone

The pedestrian zone is the space available to accommodate pedestrian travel that will:

- Create interconnectivity between different land uses
- Provide for the transfer between modes
- Separate pedestrians from vehicular traffic
- Support walking as a transportation mode

The pedestrian zone is located within the Pedestrian Circulation Path and includes the Pedestrian Access Route (PAR) needed to meet ADA accessibility criteria (see [Chapter 1510](#)). The pedestrian zone may be considerably wider than the PAR.

A generous pedestrian zone width promotes the mobility and accessibility typically anticipated within some urban and suburban contexts.

Consider wider pedestrian zones when the following are present:

- Transit facilities and passenger shelters
- Access routes to businesses
- School walking routes
- Other high pedestrian activity generators

Width considerations: The minimum pedestrian zone width of 5 feet corresponds to WSDOT's minimum sidewalk width (see [Chapter 1510](#)). Other considerations when choosing a pedestrian zone width include:

- In many downtown environments, the focus is on multimodal transportation and, in particular, pedestrian accessibility and use. Wider streetside zones promote a greater sense of safety, and can provide a comfortable and inviting area that can attract pedestrians.
- In urban/downtown environments where store fronts/businesses are located, a larger width is recommended. Consider providing wider sidewalks to increase pedestrian comfort levels and to promote walking.
- In places with higher pedestrian volumes, a 10 foot width allows for pedestrians walking side-by-side or in groups to pass others comfortably without changing directions or walking speed.
- A 10 foot width provides sufficient width for a wheelchair user to turn around and to pass another wheelchair user (5 foot width is typically adequate to perform these maneuvers).
- The minimum sidewalk width of 5 feet is appropriate in low pedestrian volume areas, such as where there are few stores abutting the street or in residential neighborhoods.

Work with stakeholders to determine the appropriate width to provide within site-specific constraints.

1238.03(3) Furnishing Zone

The furnishing zone is the key buffer component between the active pedestrian walking area (pedestrian zone) and the roadway. The furnishing zone provides area for multiple functions. The furnishing zone is not located within the Pedestrian Access Route (PAR). However, a PAR connection is required to many features that may be found in this zone (such as street furniture, parking meters, transit shelters, and transit boarding areas.)

The Furnishing zone:

- Promotes environmental and aesthetic features that improve people’s experience
- Contains street trees, street furniture, benches, planter boxes, and artwork
- Provides for the travel of the various modes through modal segregation or clearance to obstructions
- Discourages crossings at less desirable locations along the facility with use of buffers.

Traffic signs and signal cabinets; utility poles; fire hydrants; parking meters; transit boarding, queuing, and shelters; and bike racks are also generally found within the furnishing zone.

Involve the local agency, regional Landscape Architect, and safety professionals to determine optimal vegetation types.

Other width accommodations for on-street parking may be needed for vehicle overhang or entering/exiting movements when parking is present.

Coordinate with region Program Management to understand potential funding limitations for furnishing zone features described within this section. Partnerships or grants may be necessary to complete all desired features within the furnishing zone.

Width considerations: A width of 2 feet provides the minimum width to accommodate utilities and street furniture. Greater widths accommodate a larger variety of possible features within the furnishing zone. Other considerations when choosing a furnishing zone width include:

- An 8-foot width or greater generally provides sufficient space to accommodate a bus transit stop (loading/unloading) and a transit shelter (see [Chapter 1730](#) and work with the transit provider to determine needed space.)
- In commercial areas, a minimum furnishing zone width of 4 feet is recommended.
- In areas where snow accumulation can occur, the furnishing zone can provide snow storage space that does not decrease the width of the pedestrian zone.
- When higher vehicle speeds are present, providing a larger width to act as a buffer between vehicles and pedestrians is desirable.

If a furnishing zone is to be provided, work with stakeholders to determine the appropriate width to provide in order to accommodate the expected features within the site-specific constraints.

1238.04 Retrofit Options

Retrofit options refer to the application of lower-cost treatments that utilize paint and other delineation devices rather than hardscape features. Retrofit applications are particularly useful when:

- Construction will occur in phases over a timeline greater than one year between phases where overlapping areas of work occur, or when elements or features are funded by a partnering agency.
- Implementing speed management treatments (see [Chapter 1103](#)) that, after evaluating their effectiveness, may need to be reconfigured.
- Funding is unable to adequately accomplish the identified scope of work.

Applied retrofit options may require additional maintenance over long-duration applications. Coordination with maintenance jurisdictions as described in [Chapter 301](#) is critical to evaluating the potential maintenance outcomes for retrofit options being considered. The retrofit options discussed within the following subsections are more likely to be applied in urban context settings. Note that cities over 25,000 population will have the responsibility of maintaining any retrofit delineation, and it will be critical to ensure they have the resources to maintain striped retrofit features.

The following subsections describe several common applications of retrofit options.

1238.04(1) Relocate Curbs

Changes to the geometric cross section may involve relocating the existing curb. While installing a new curb may be preferred, there are a number of additional considerations (like stormwater conveyance) that make relocating curb lines cost-prohibitive. However, there are multiple retrofit solutions that can provide effective accommodation including, but not limited to:

- Striping combined with MUTCD-approved channelization devices.
- Curb extensions offset from the original curb. Depending on the use of the new curbed section, retrofit designs may include slotted grates tying the existing curb and new curb together while maintaining the original stormwater conveyance system.
- Colorized pavement to delineate a change of use.

Use retrofit features as a low-cost solution to create wider sidewalk areas, curb extensions, bicycle parking areas, parklet areas, and/or green street low-impact development solutions.



Note that retrofits like this must comply with the accessibility criteria for pedestrian facilities in [Chapter 1510](#).



"Moving the Curb" Photo courtesy of NACTO.org

1238.04(2) Parklets and Plazas

Parklets and plazas reuse existing right of way in urban and rural town centers, providing public space to support the economic vitality and social livability performance of a particular context. As geometric cross sections are reconfigured, spaces may become available at intersections or for repurposing a parking area into either plazas or parklets. The primary intent of presenting these treatments is for roadways with posted speeds of ≤ 35 mph or main streets with volumes at or below 20,000 ADT. However, there are many potential constraints external to the engineering design that may need resolution before application. Consult with Real Estate Services to discuss the specific property management-related concerns and any potential lease and/or economic payment considerations proportionally appropriate for utilization of the highway space in this manner, as further detailed in [RCW 47.24.020\(15\)](#).



A parklet specifically uses the area usually used for parking to create a space for pedestrians. A common application provides seating accommodations to support local restaurants and shops.

Parklet designs will vary depending on local jurisdiction regulations, but they typically include railing and/or planter boxes to provide a separation of uses between people and traffic.

Parklet design should not cover catch basins or other features that may require frequent maintenance. Parklets interact with motorized vehicle traffic best when placed on tangent alignments.

Plazas can reuse right of way to define a relatively large common public space. Plazas are typically associated with a central gathering location for special events, and will likely have limited application on Washington state highways.



1238.05 References

1238.05(1) Design Guidance

Highway Runoff Manual, M 31-16, WSDOT

Local Agency Guidelines (LAG), M 36-63, WSDOT

Plans Preparation Manual, M 22-31, WSDOT

Standard Plans for Road, Bridge, and Municipal Construction, M 21-01, WSDOT

Standard Specifications for Road, Bridge, and Municipal Construction, M 41-10, WSDOT

1238.05(2) Supporting Information

Understanding Flexibility in Transportation Design – Washington, WA-RD 638.1, Washington State Department of Transportation, 2005 www.wsdot.wa.gov/research/reports/fullreports/638.1.pdf

Urban Street Design Guide, National Association of City Transportation Officials, New York, NY, 2013

www.nacto.org

Urban Street Stormwater Guide, National Association of City Transportation Officials, New York, NY, 2017

www.nacto.org

A Policy on Geometric Design of Highways and Streets (Green Book), AASHTO, current edition

