Street Design Standards Update

Plan Commission Transportation Subcommittee

July 21, 2020

The City of Choice

What are we doing? And Why?

- Update to Chapter 3 of the Design Standards
- Also updated to SMCs mostly Chapter 17
- Used by city staff and the development community
- Adding the latest best practices

Schedule for Completion

06/24/2020 – Design Review Board

07/21/2020 – Plan Commission Transportation Subcommittee

07/22/2020 – Plan Commission workshop

07/30/2020 – Issue updated draft (version 10)

08/04/2020 – Plan Commission Transportation Subcommittee

08/12/2020 – Plan Commission workshop

08/24/2020 – Public Infrastructure, Environment, and Sustainability Committee

09/09/2020 - Plan Commission hearing

09/26/2020 – Plan Commission hearing (if continued)

October 2020 – City Council workshops and hearing

Street Characterization

Characterization = Classification + Context

- Classification
  - Principal, Minor, Major or Minor Collector, Local
- Context
  - Based on Land Use Zoning

Components of the Street

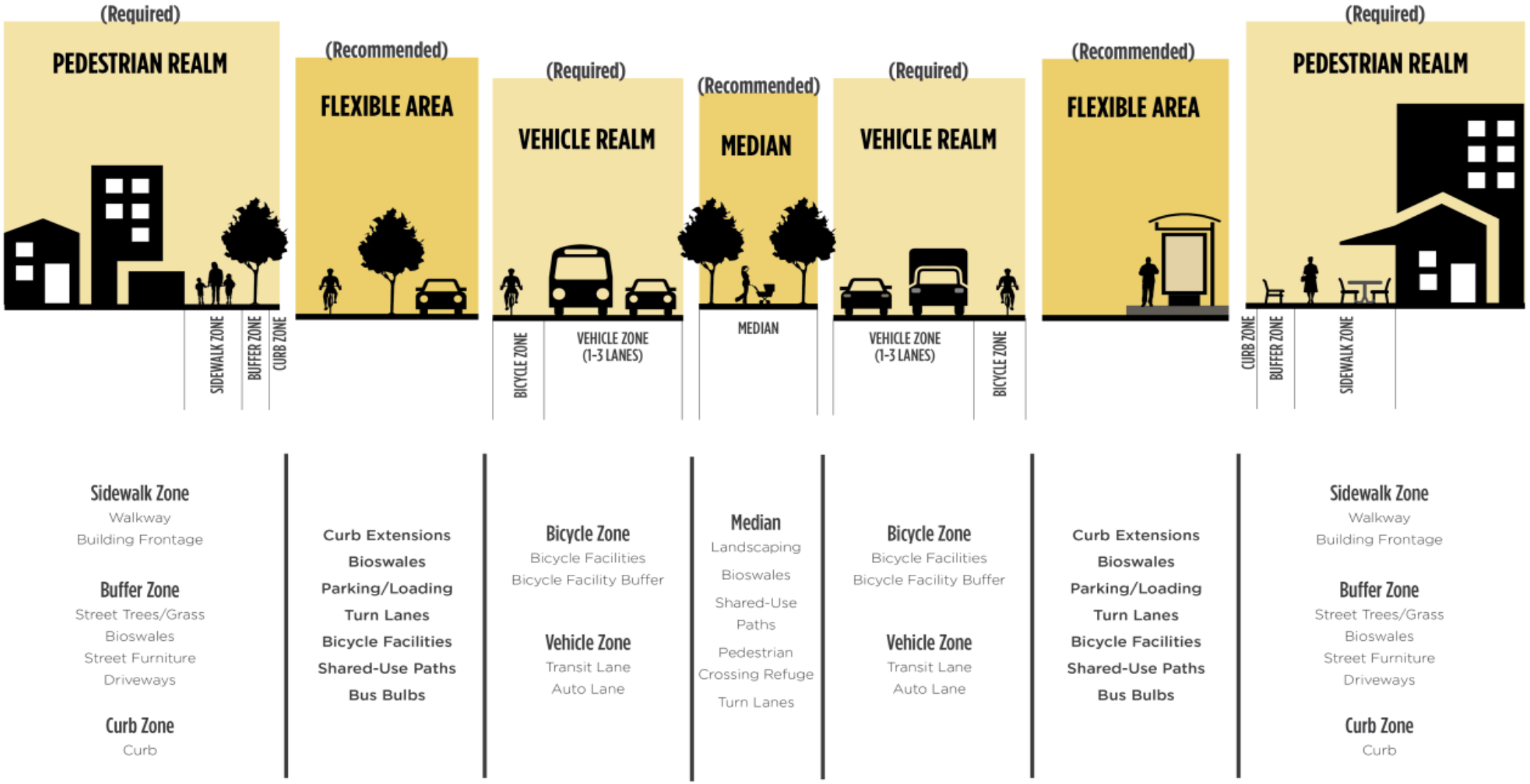
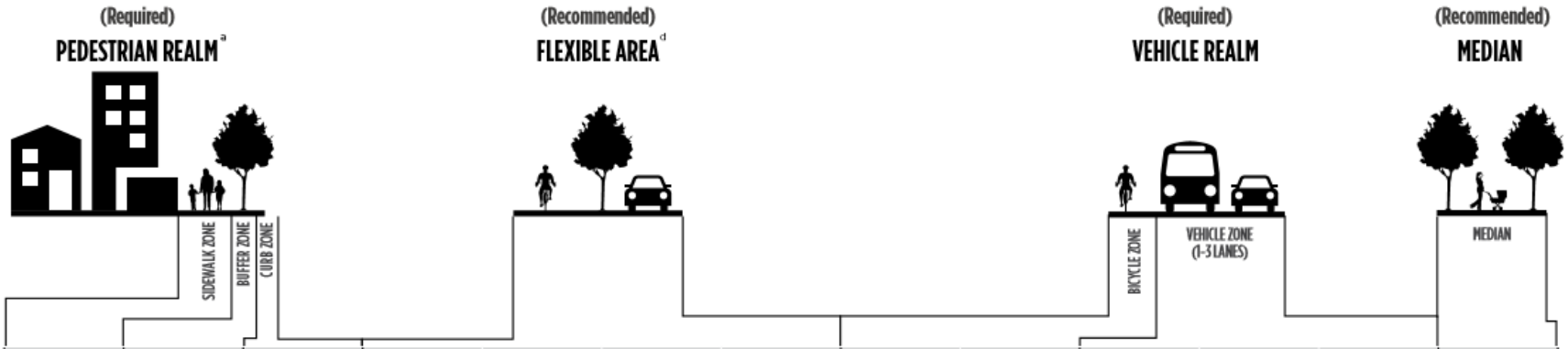


Table 1 **Street Dimensions**



	Sidewalk Zone	Buffer Zone[b,c]	Curb Zone	Opt. Shared Use Path[e,f]	Stormwater Management[g]	Curb Extensions[h] / Bus Bulbs[i]	Parking	Bicycle Zone[f]	Bicycle Buffer[i]	Vehicle Zone Outer Lane[k,l]	Vehicle Zone Inner Lane[k]	Vehicle Zone Left Turn or TWLTL	Median[m]
Center & Corridor CC1, CC2, CC3, CC4													
Urban Principal Arterial	8	4	0.5	12	10	7	8	6	1-3	11	11	11	6-20
Urban Minor Arterial	8	4	0.5	12	10	7	8	6	1-3	11	11	11	6-20
Urban Major/Minor Collector	8	4	0.5	12	10	7	8	6	NA	11	11	10	6-20
Urban Local Access	5	6	0.5	12	6.5	NA	7	6	NA	10	NA	NA	6-20
Downtown DTC, DTG, DTU, DTS; Commercial O, OR, NR, NMU, CB, GC; and Form Based Code CA1, CA2, CA3, CA4													
Urban Principal Arterial	7	5	0.5	12	10	7	8	6	1-3	11	11	11	6-20
Urban Minor Arterial	7	5	0.5	12	10	7	8	6	1-3	11	11	11	6-20
Urban Major/Minor Collector	7	5	0.5	12	10	7	8	6	NA	11	11	10	6-20
Urban Local Access	5	6	0.5	12	6.5	NA	7	6	NA	10	NA	NA	6-20
Residential RA, RSF, RSF-C, RTF, RMF, RHD													
Urban Principal Arterial	6	6	0.5	12	6.5	NA	8	6	1-3	11	11	10	6-20
Urban Minor Arterial	6	6	0.5	12	6.5	NA	8	6	1-3	11	11	10	6-20
Urban Major/Minor Collector	6	6	0.5	12	6.5	NA	8	6	NA	11	11	10	6-20
Urban Local Access	5	6	0.5	12	6.5	NA	7	6	NA	10	NA	NA	6-20
Industrial LI, HI, PI													
Urban Principal Arterial	6	6	0.5	12	6.5	NA	NA	6	3	12	12	12	6-20
Urban Minor Arterial	6	6	0.5	12	6.5	NA	8	6	3	12	12	12	6-20
Urban Major/Minor Collector	6	6	0.5	12	6.5	NA	8	6	NA	12	12	12	6-20
Urban Local Access	5	6	0.5	12	6.5	NA	7	6	NA	11	NA	NA	6-20

A. In the case of hillside development, defined as low-density development under 10 units per acre, ensure streets are built with 5-foot sidewalks on both sides of the street plus an optional 6.5-foot bio-infiltration swale. On street parking is required on one side of the street. See SMC 17H.010.110 for exceptions.

B. Per SMC 17C.200.050-1, a tree-planted continuous buffer requires a 5-foot minimum width for commercial zones. For residential and industrial zones, the minimum increases to 6 feet. Alternatively, a narrower buffer may be used in select zones if tree vaults are implemented.

C. Buffers in commercial areas may be planted or concrete. When stormwater disposal is a governing concern, consideration should be given to use pervious surfaces.

D. The flexible area includes a menu of options which are chosen based on what makes most sense according to city plans, environmental responsibilities, and context. In some cases, none of these will fit within the project. Only in very rare cases will more than one fit - for instance, a parking lane plus bio-retention swale.

E. In places designated for shared-use paths, the path can take the place of the sidewalk zone.

F. Consult Master Bicycle Plan for guidance on facility type and selection. Possible facilities include bike lanes, buffered bike lanes, and parking protected bike lanes (cycle tracks). Bicycle facilities may operate in the Flexible Area or the Vehicle Realm. Bicycle boulevards and shared roadways are possibilities on Urban Local Access streets.

G. Consult the Spokane Regional Stormwater Manual and Eastern Washington Low Impact Development Guidance Manual for desired locations for stormwater facilities. The stormwater catchment area must meet the required volume generated by the planned impervious area.

H. Intersections and mid-block crossings, provide curb extensions into the parking lane.

I. On transit corridors, use bus bulbs if space allows to ease boarding, reduce sidewalk congestion, and allow buses to easily re-enter traffic. This should typically be done only if there is a second lane for vehicles to continue around stopped buses.

J. "High Traffic" and "Medium Traffic" lane routes on the Master Bicycle Plan should include buffers. Separation buffer between bike lane and vehicle lane should be implemented via parallel lane edge stripes with a periodic cross-hatch.

K. When constraints are prohibitive, consider 10-foot lane width as the minimum.

L. Travel lane includes the width of the gutter pan, if integral curb and gutter is used.

M. Medians less than 6 feet wide are considered traffic channelization. A pedestrian refuge is a raised median with a minimum width of 6 feet. Wider medians may be implemented in the context of boulevards.

Arterial ROW Widths - SMC 17H

Table 17H.010-1 Arterial Right-of-way Widths			
	Right-of-way Width		Street Width
	Minimum[1]	Typical	Curb to Curb
ARTERIAL (all types)			
2 lanes[2]	60 ft	60 ft – 80 ft	Varies[3]
3 lanes[2]	65 ft	65 ft – 80 ft	Varies[3]
4 lanes[2]	75 ft	75 ft – 100 ft	Varies[3]
5 lanes[2]	90 ft	80 ft – 100 ft	Varies[3]
6 lanes[2]	100 ft	90 ft - 110 ft	Varies[3]
7 lanes[2]	100 ft	90 ft – 125 ft	Varies[3]

Notes:

[1]Additional right-of-way may be required if roadside swales are used to control storm drainage, for bike lanes if designated on the plan, or for wider sidewalks depending on the zoning.

[2]Lanes can be through lanes, turn pockets, or continuous TWLTL.

[3]Curb-to-curb width varies depending on street features including number of lanes, on-street parking, bike lane, median and turn lanes. See Design Standards for more detail.

Overly wide local streets

The City of Choice

Local Access Widths - SMC 17H

Table 17H.010-2 Local Access Right-of-way and Street Widths			
	Minimum Right-of-way Width[1]		Minimum Street Width
	Sidewalks in ROW	Sidewalks on Easements	Curb to Curb
LOCAL ACCESS			
Residential	58 ft.	48 ft.	34 ft.
Residential Low Density[2,3]	51 ft.	41 ft.	27 ft.
Hillside Development[3,5]	40 ft.	35 ft.	27 ft.
Industrial[5]	60 ft.	50 ft.	36 ft.
Cul-de-sac (radius)	56 ft.	51 ft.	50 ft.
Alley[6]	20 ft.	20 ft.	12 ft.

Notes:

[1]Additional right-of-way may be required if roadside swales are used to control storm drainage.

[2]Narrow streets are appropriate only in low density (four to ten units per acre) residential neighborhoods. Adequate emergency vehicle access and staging areas must be provided as discussed in SMC 17H.010.140.

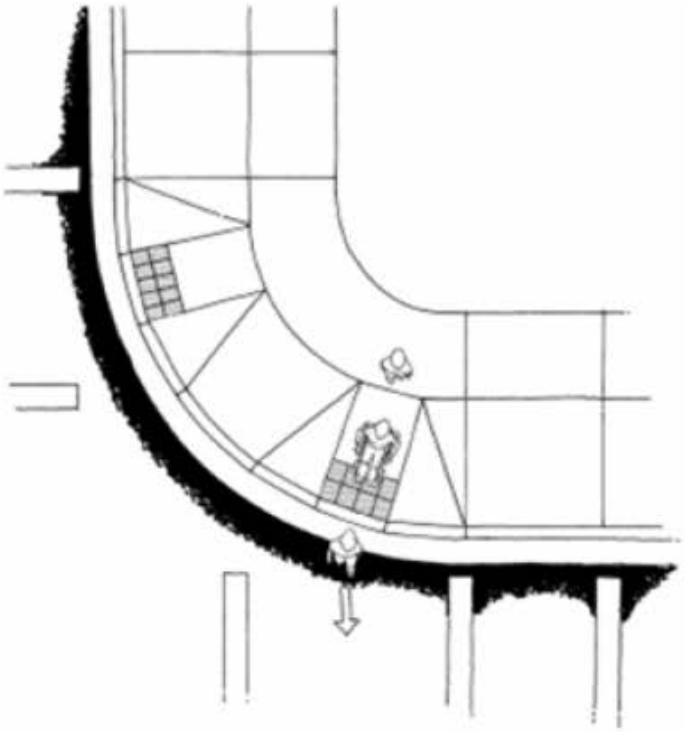
[3]Parking is allowed on one side of the street only. Refer to SMC 17H.010.120 for on-street parking requirements.

[4]Refer to SMC 17H.010.110 for more information.

[5]Industrial is intended for use in areas with LI, HI or PI zoning per SMC 17C.130.020.

[6]Alleys do not require sidewalk or curb. The widths shown apply to right-of-way and pavement width.

Diagonal Ramps are NOT ideal



At diagonal curb ramps, wheelchair users cross in different location than other pedestrians.

With 2 separate ramps pedestrians cross at the same location.

Curb Ramps – Design Standards

Placing two ADA curb ramps per corner is recommended along arterial corridors, and on local streets in Pedestrian Priority Areas as defined in the Pedestrian Master Plan. Ramps should be aligned such that the tactile texture “points” to the opposing ramp across the street. The use of two ramps per corner is most effective where sidewalks are separated from the roadway by a buffer.

Where redevelopment is concerned, the use of single curb ramps per corner may be appropriate when relocation of utilities would be required to accommodate dual ramps. When using a single curb ramp per corner, it is important to be consistent in the placement in association to the intersection. Visually impaired individuals practice aligning their crossings from the mid-point of curvature. Thus, it is best to align single curb ramps on the mid-point of the corner such that a user need only turn 45 degrees to the right or left of the ramp to align themselves with the crosswalk markings.

Curb Ramps – SMC edits

17H.010.200 Curb Ramps

A. At all intersections where new curbs, sidewalks or both are to be constructed, curb ramps are to be placed and constructed as shown on the standard plans. Where a ramp is built on one corner of an intersection, a ramp shall also be provided at a corresponding location on the opposite corner of the intersection.

B. Not less than two curb ramps per lineal block shall be constructed on or near the crosswalks at intersections or other convenient locations approved by the director of engineering services. Along arterial corridors, two curb ramps should be provided on each corner.

Design Speeds

	RESIDENTIAL, INDUSTRIAL, CB AND GC				CC, DOWNTOWN, FORM BASED CODE			
Street Type	Principal Arterial	Minor Arterial	Collector	Local	Principal Arterial	Minor Arterial	Collector	Local
Design Speed = Posted Speed = Target Speed (mph)	30-35	30-35	30	25	30	25-30	25-30	25

Design Vehicles

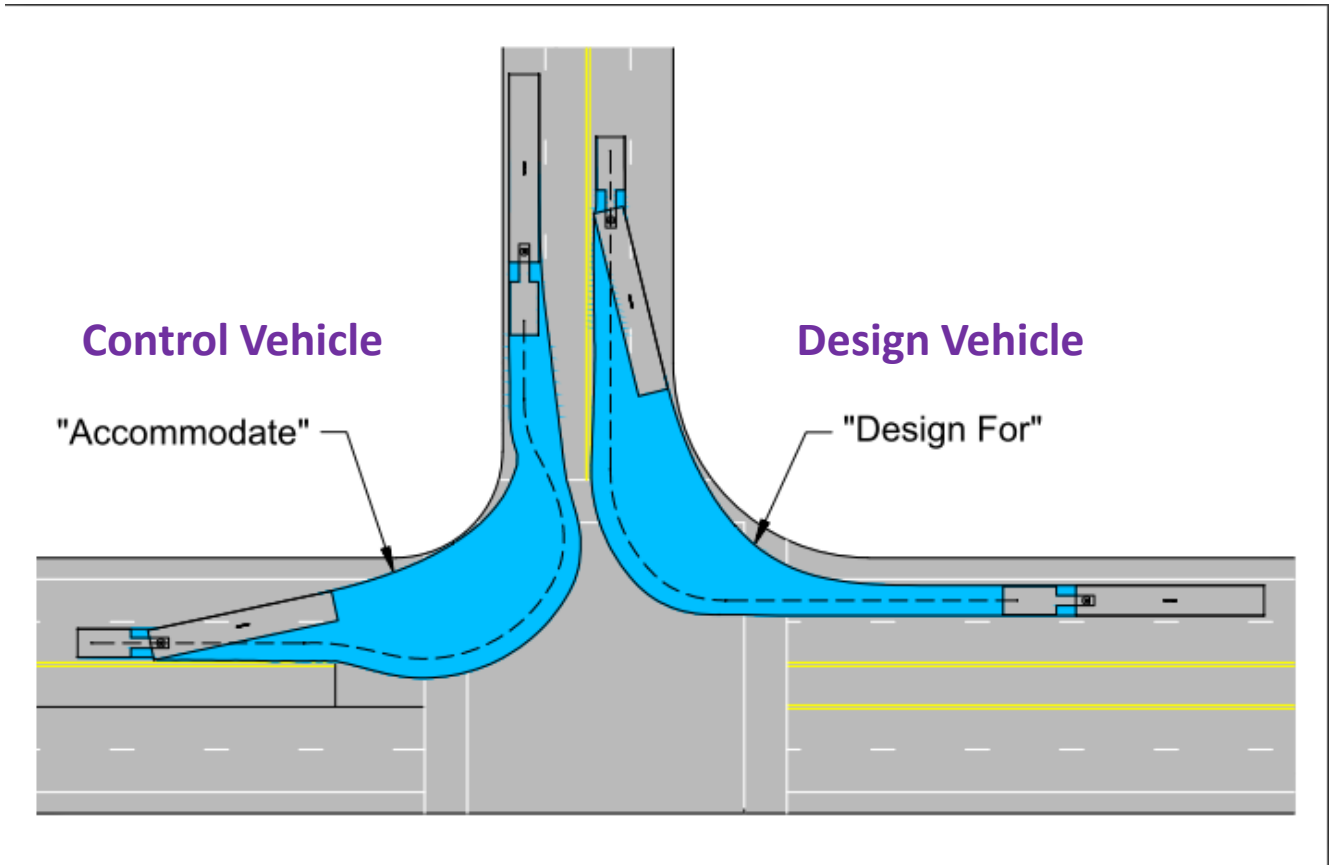


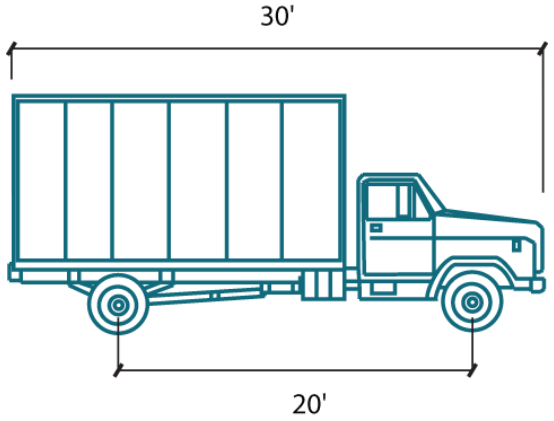
Image: City of Seattle

Design Vehicles

	RESIDENTIAL, INDUSTRIAL[1], CB AND GC		CC, DOWNTOWN, FORM BASED CODE	
Street Type	Arterials[2]	Local	Arterials[2]	Local
Design Vehicle (10% or more of ADT)	WB-40	SU-30	SU-30 & STA 40’ bus	SU-30
Control Vehicle (Infrequent Largest User)	WB-50	WB-50	Ladder truck	Ladder truck

[1] Urban streets zoned for industrial uses may require larger design and control vehicles.

[2] Intersections of arterials with a local street should use the local street design vehicle unless nearby land uses dictate the need to accommodate a larger vehicle.



Design Vehicle

Control Vehicle (infrequent)

The City of Choice

Clear Zone

- Current policy is 10’ from travelled way
- New policy based on speed
  - 20-35 mph: 1.5’ for existing objects, 4’ for new
  - 40+ mph: 6’ for existing objects, 10’ for new
- Exemptions include signals, lighting, parking meters, ITS equipment, street trees, planter boxes, transit shelters, bollards, benches, kiosks.
- Planters used in the street must be fixed in place or a frangible design

SMC Updates

17A.010.070 Delegation of Administration (downloaded here)

17A.020 Definitions (downloaded here)

17C.200 Street Tree Requirements, 12.01 and 12.02 (downloaded here)

17H.010 Engineering Standards (downloaded here)

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