

Design Element				Manual Section	Design Criteria
Design Controls	Design Forecast Year			9.6.2	20 years
	*Design Speed			9.5.2	30 to 45 mph
	Access Control			9.8	Controlled by Regulation
	Level of Service			9.6.4	Desirable: C
Cross Section Elements	*Travel Lane Width			13.2.3	12'
	*Shoulder Width	Total Width		13.2.4	8' or Curb and Gutter
		Paved Width			2' or Curb and Gutter
	Auxiliary Lanes	Lane Width		13.2.5	12'
		Shoulder Width	Total Width		Des.: 8' Min.: 4' or Curb and Gutter
			Paved		
	Parking Lane Width			21.2.8	12' (1)
	Cross Slope	*Travel Lane		13.2.3.3	2.08%
		Auxiliary Lane		13.2.5	2.08% (2)
		*Shoulder	Paved	13.2.4.3	2.08% (3)
			Unpaved		8.33%
	Bicycle	Lane Width		13.2.3	4' (4)
		Shared Roadway Width			14' Outside Travel Lane
	Curb and Gutter	Type (5)		21.2.9	Vertical or Sloping
		Width			2'
	Sidewalk Width			21.2.10	5'
Median Width	TWLTL		21.2.7	15'	
	Flush		13.4.2.1	Des: 12' Min: 4'	
Roadway Elements	Side Slopes	Cut Section	Foreslope	13.3	6H:1V
			Ditch Width		V-Ditch
			Back Slope		4H:1V to 2H:1V
		Fill Section	0' – 5'		6H:1V
			5' – 10'		4H:1V
			> 10'		2H:1V
	Median Slopes	Flush/TWLTL		21.2.7	2.08%
	Clear Zone			14.3	(6)
Bridges	New and Reconstructed Bridges	*Structural Capacity			HL-93
		*Clear Roadway Width		13.5.1.1	(7)
	Existing Bridges to Remain in Place	*Structural Capacity			HL-15
		*Clear Roadway Width		13.5.1.1	(7)
	*Vertical Clearance (Collector Under) (8a)	New/Replaced Overpassing Bridges (8b)		12.6	16' - 0"
		Existing Overpassing Bridges			16' - 0"
		Pedestrian Bridges			18' – 0"
		Overhead Signs			17' – 6"
Clearance (Collector Over)	*Railroads		12.6	23' – 0"	
	Underpass Width		13.5.2	Traveled Way Plus Clear Zone	

*Controlling design criteria (see Section 9.2).

Design Criteria for Suburban/Urban Collectors (New Construction/Reconstruction)
Figure 21.3C (SCHDM 2003)