

GEOMETRIC DESIGN STANDARDS - URBAN MINOR ARTERIAL STREET SYSTEM (GS-6M)

	DESIGN SPEED (km/h)	MINIMUM RADIUS		(12) STOPPING SIGHT DISTANCE	(11) MIN. WIDTH OF LANE	(3) STANDARD CURB & GUTTER (10)	BUFFER STRIP WIDTH	(4) MINIMUM SIDEWALK WIDTH	(5) SLOPE	(6) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES	
		U	ULS	MIN.							
STREETS WITH CURB & GUTTER	100	394	-	185	3.6m	CG-7	(10)	1.5m	2: 1	SAME AS CURB TO CURB OF APPROACHES	
	80	280	-	130							
	70	215	227	105							
	60	150	149	85							
	50	99	94	65	(1) (2) 3.3m	CG-6					
	DESIGN SPEED (km/h)	MINIMUM RADIUS		(12) STOPPING SIGHT DISTANCE	MIN. WIDTH OF LANE	(7) MINIMUM WIDTH GRADED SHOULDERS		(8) PAVED SHOULDER WIDTH	(9) WIDTH OR DITCH (FRONT SLOPE)	(5) SLOPE	(6) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES
		U	ULS	MIN.		FILL W/GR	CUT & FILL	RT.			
STREETS WITH SHOULDER DESIGN	100	394	-	185	3.6m	3.9m	3.0m	2.4m	1.2m	2: 1	3.0m + PAVEMENT WIDTH + 3.0m
	80	280	-	130		(1) (2) 3.3m	3.3m	2.4m	1.8m		1.2m
	70	215	227	105							
	60	150	149	85							
	50	99	94	65							

GENERAL NOTES

Design Speeds for Urban Arterials generally range from 60 to 80 km/h and occasionally may be as low as 50 km/h. The lower (60 km/h and below) speeds apply in the central business district and intermediate areas. The higher speeds are more applicable to the outlying business and developing areas.

Standard TC-5.01R(M) superelevation based on 8% maximum is to be used for 100 km/h design speed.

Standard TC-5.01U(M) (Urban) superelevation based on 4% maximum is to be used for design speeds less than 100 km/h.

Standard TC-5.04ULS(M) (Urban Low Speed) superelevation based on 2% maximum may be used for design speeds less than or equal to 70 km/h.

Clear Zone and Recoverable Area information can be found in Appendix A(M), Section A-2(M) of the Road Design Manual.

If medians are included, see [Section 2E-3 of Chapter 2E](#) of the Road Design Manual.

A minimum 9.2 m width of surfacing or a minimum 9.2 m face to face of curb is to be used within incorporated cities or towns to qualify for maintenance payments.

FOOTNOTES

- (1) Lane width to be 3.6 m at all interchanges or if design year ADT exceeds 2000.
- (2) If heavy truck traffic is anticipated, an additional 0.3 m width is desirable.
- (3) Or equivalent City or Town design.
- (4) A width of 2.4 m or more may be needed in commercial areas.
- (5) 3:1 and flatter slopes may be used when the right of way is behind the sidewalk (or sidewalk space) in residential or other areas where slopes will be maintained by the property owner.
- (6) Vertical clearance at roadway underpasses for new and reconstructed bridges is to be 5.05 m (0.3 m additional clearance required for non-vehicular overpasses).
- (7) If graded median is used, the width of median shoulder is to be 2.4 m.
- (8) The Paved widths shown are the widths to be used if the Materials Division recommends the shoulders be paved or stabilized. When the mainline is 4 lanes (both directions) a minimum 2.4 m wide paved shoulder will be provided on the right of traffic and a minimum 1.2 m wide paved shoulder on the median side. Where the mainline is 6 or more lanes, both the right and median paved shoulders will be 2.4 m in width. If paved shoulders are not recommended by the Materials Division, the mainline pavement structure will be extended 0.3 m at the same slope into the shoulder to eliminate raveling of the pavement edge.
- (9) Ditch slope to be 6:1 - 3.0 m width and 4:1 - 1.8 m width.
- (10) If a buffer strip is used between the back of curb and sidewalk, it should be 0.6 m minimum.
- (11) Situations having restrictions on trucks may allow the use of lanes 0.3 m less in width.
- (12) For intersection sight distance requirements, see [Appendix C, Table C-1-5](#).

RELATIONSHIP OF MAXIMUM GRADES TO DESIGN SPEEDS					
TYPE OF TERRAIN	DESIGN SPEED (km/h)				
	50	60	70	80	100
	GRADES (PERCENT)				
LEVEL	8	7	6	6	5
ROLLING	9	8	7	7	6
MOUNTAINOUS	11	10	9	9	8

FIGURE A - 1 - 6M*

* Rev. 7/08