GEOMETRIC DESIGN CRITERIA

The design criteria in Table A-4-1 for Minor Arterial, Collector and Local Road projects are based on the general approach in the "AASHTO Book" regarding functional classification and corresponding appropriate design volumes and also recommendations presented in *TRB special Report 214, Practices for Resurfacing, Restoration, and Rehabilitation*.

MINIMUM LANE AND SHOULDER WIDTH VALUES								
ARTERIAL/ COLLECTOR/ LOCAL ROAD AND STREET SYSTEMS								
DESIGN TRAFFIC VOLUME	DESIGN SPEED MPH	10% OR MORE TRUCKS (d)			LESS THAN 10% TRUCKS (d)			DITCH WIDTH 3:1 FRONT SLOPE
		LANE WIDTH		SHOULDER WIDTH (c)	LANE WIDTH		SHOULDER WIDTH (c)	
ADT (a)	(b)	C&G (FT.)	W/SHLD (FT.)	(FT.)	C&G (FT.)	W/SHLD (FT.)	(FT.)	(FT.)
1 - 750	< 50	11 (e)	10 (e)	2 (i)	10	9	2 (i)	3 (h)
	≥ 50	11	10	2 (i)	11	10	2 (i)	3 (h)
751 - 2000	< 50	11	11 (f)	2 (i)	11	10	2 (i)	3
	≥ 50	12	12 (g)	3 (i)	11	11	3 (i)	3
2001 - 4000	ALL	12	12	6	11	11	6	4
4001 - OVER	ALL	12	12	6	11	11	6	4

TABLE A-4-1 GEOMETRIC DESIGN CRITERIA

(a) Design traffic volume is between 8 and 12 years from completion.
(b) Highway segments should be classified as "Under 50" only if most vehicles have an average running speed of less than 50 MPH over the length of the segment.
(c) Cut shoulder width may be reduced by one foot in mountainous terrain.
(d) Trucks are defined as heavy vehicles with six or more tires.
(e) Use 9' lane width for Rural/Local Road System with ADT of 1 - 250.
(9' lane width is equal to new construction standards for Rural/Local Road System)
Use 10’ lane width with Curb and Gutter for Urban with ADT 1-250
(10’ lane width is equal to new construction standards)
(f) Use 10' lane width for Collector Road and Local Road System in mountainous terrain. (10' lane width is equal to new construction standards.)
(g) Use 11' lane width for Collector Road and Local Road System in level terrain. (11' lane width is equal to new construction standards.)
(h) Use 2' ditch width with pavement depths (excluding cement stabilized courses) of 8" and less.
(i) Minimum width of 4' if roadside barrier is utilized (minimum 2' from edge of pavement to face of G.R.). (See Guardrail Installation Standard, Section 500, in VDOT Road and Bridge Standards).*

NOTE: PAVEMENT AND SHOULDER WIDTHS NOTED ARE MINIMUMS FROM A DESIGN CRITERIA STANDPOINT. U NDER NO CIRCUMSTANCES SHALL THE EXISTING PAVEMENT OR SHOULDER WIDTHS BE REDUCED TO CONFORM TO THESE MINIMUM STANDARDS.

NOTE: FOR VALUES NOT SHOWN, SEE APPROPRIATE GEOMETRIC DESIGN STANDARD FOR THE FUNCTIONAL CLASSIFICATION OF ROADWAY (GS-2, GS-3 OR GS-4) CONTAINED IN THE VDOT *ROAD DESIGN MANUAL*, APPENDIX A, SECTION A-1.

NOTE: ROADSIDE HAZARDS AND PRIORITY FOR RELATIVE ACTION ARE COVERED ON PAGE A-33.

* Rev. 7/15