GEOMETRIC DESIGN STANDARDS FOR RURAL LOCAL ROAD SYSTEM (GS-4)

TRAFFIC VOLUME	TERRAIN	DESIGN SPEED (MPH)	MINIMUM RADIUS	(9) STOPPING SIGHT DISTANCE Min.	(2) MINIMUM WIDTH OF SURFACING OR PAVEMENT	(3) (4) (5) MIN. WIDTH OF GRADED SHOULDERS FILL W/GR	(3) (4) (5) MIN. WIDTH OF GRADED SHOULDERS CUT & FILL	(6) Minimum WIDTH OF DITCH (FRONT SLOPE)	(7) RECOMMENDED SLOPE	(8) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES
(1) ADT OVER 2000	LEVEL	50	760'	425'	24'	11'	8'	6'	CS-4, 4A OR 4C	APPROACH ROADWAY WIDTH
	ROLLING	40	465'	305'					CS-3, 3A OR 3B	
	MOUNTAINOUS	30	251'	200'				4'		
(1) ADT 1500 TO 2000	LEVEL	50	760'	425'	22'	9'	6'	6'	CS-4, 4A OR 4C	3' PLUS PAVEMENT WIDTH PLUS 3'
	ROLLING	40	465'	305'					CS-3, 3A OR 3B	
	MOUNTAINOUS	30	251'	200'				4'		
(1) ADT 400 TO 1500	LEVEL	50	760'	425'	22'	8'	5'	6'	CS-1	
	ROLLING	40	465'	305'	20'			4'		
	MOUNTAINOUS	30	251'	200'						
CURRENT ADT UNDER 400	LEVEL	40	465'	305'	18'	7'	2'	4'	CS-1	2' PLUS PAVEMENT WIDTH PLUS 2'
	ROLLING	30	251'	200'						
	MOUNTAINOUS	20	108'	125'						

GENERAL NOTES

Low design speeds are generally applicable to roads with winding alignment in rolling or mountainous terrain where environmental conditions dictate.

High design speeds are generally applicable to roads in level terrain or where other environmental conditions are favorable.

Intermediate design speeds would be appropriate where terrain and other environmental conditions are a combination of those described for low and high speed.

For minimum design speeds for 250 ADT and under, see AASHTO Green Book, Chapter 5, Exhibit 5-1.

Standard TC-5.01R (2001 AASHTO Green Book) superelevation based on 8% maximum is to be used.

In incorporated towns or other built-up areas, Urban Standard GS-8 may be used. . “Built-up” is where there is sufficient development along the roadway that justifies a need to channelize traffic into and out of properties utilizing curb and gutter.

For Passing Sight Distance Criteria See Current AASHTO Green Book.

For maximum grades relative to terrain and design speed, see AASHTO Green Book, Chapter 5, Exhibit 5-4.

FOOTNOTES

(1) Use Design Year ADT for new construction and reconstruction projects (not applicable to R.R.R. projects or roads with ADT < 400) in accordance with Road Design Manual, Chapter 2A, “REQUEST FOR TRAFFIC DATA” and Form LD-104.

(2) Lane width to be 12' at all interchange locations.

(3) In mountainous terrain or sections with heavy earthwork, the graded width of shoulder in cuts may be decreased by 2', but in no case shall the shoulder width be less than 2'.

(4) Minimum shoulder slope shall be 8% on low side and same slope as pavement on high side (See St’d. GS-12).

(5) Provide 4' wide paved shoulders when design year ADT exceeds 2000 VPD, with 5% or more truck and bus usage. All shoulders not being paved will have the mainline pavement structure extended 1' on the same slope into the shoulder to eliminate raveling at the pavement edge. For additional guidance on shoulder widths, see the AASHTO Green Book, Chapter 5.

(6) Ditch slopes to be 4:1 - 6' width, 3:1 - 4' width. A hydraulic analysis is necessary to determine actual depth requirement.

(7) Additional or modified slope criteria to be applied where shown on typical sections.

(8) Vertical clearance at roadway underpasses for new and reconstructed bridges is 16'-6" desirable and 14'-6" minimum (1' additional clearance required for non-vehicular overpasses).

(9) For additional information on sight distance requirements on grades of 3 percent or greater, see Exhibit 3-2 of the 2004 AASHTO Green Book.

FIGURE A - 1 - 4*

* Rev. 3/11