GEOMETRIC DESIGN STANDARDS FOR URBAN COLLECTOR STREET SYSTEM (GS-7)

	DESIGN SPEED (MPH)	MINIMUM RADIUS		(11) STOPPING SIGHT DISTANCE	MIN. WIDTH OF LANE	(3) STANDARD CURB & GUTTER (10)	BUFFER STRIP WIDTH	(4) MINIMUM SIDEWALK WIDTH	(5) SLOPE	(8) (9) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES
		U	ULS	MIN.						
STREETS WITH CURB & GUTTER	50	929'	-	425'	12'	CG-7	(10)	5'	2 : 1	SAME AS CURB TO CURB OF APPROACHES
	45	732'	795'	360'	(1) (2) 11'					
	40	563'	593'	305'		CG-6				
	30	300'	273'	200'						

	DESIGN SPEED (MPH)	MINIMUM RADIUS		STOPPING SIGHT DISTANCE	MIN. WIDTH OF LANE	(7) MINIMUM WIDTH GRADED SHOULDERS		(10) WIDTH OR DITCH (FRONT SLOPE)	(5) SLOPE	(8) (9) NEW AND RECONSTRUCTED MINIMUM BRIDGE WIDTHS AND VERTICAL CLEARANCES
		U	ULS	MIN.		FILL W/GR	CUT & FILL			
STREETS WITH SHOULDER DESIGN	50	929'	-	425'	12'	11'	8'	6'	2 : 1	. 8' + PAVEMENT WIDTH + 8'
	40	563'	593'	305'	(1) (2) 11'					
	30	300'	273'	200'		7'	4'	4'		4' + PAVEMENT WIDTH + 4'

GENERAL NOTES

A minimum design speed of 30 mph or higher should be used for collector streets, depending on available right of way, terrain, adjacent development and other area controls.

In the typical street grid, the closely spaced intersections usually limit vehicular speeds and thus make the effect of design speed of less significance. Nevertheless, the longer sight distances and curve radii commensurate with design speeds higher than the value indicated result in safer highways and should be used to the extent practicable.

Standard TC-5.01U (Urban) (2001 AASHTO Green Book) superelevation based on 4% maximum.

Standard TC-5.04ULS (Urban-Low Speed) (2004 AASHTO Green Book) superelevation based on 2% maximum may be used with a design speed of 45 mph or less.

A minimum 30' width of surfacing or a minimum 30' curb to curb is to be used within incorporated cities or towns to qualify for maintenance payments.

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

RELATIONSHIP OF MAXIMUM GRADES TO DESIGN SPEEDS				
TYPE OF TERRAIN	DESIGN SPEED (MPH)			
	30	40	45	50
	GRADES (PERCENT)			
LEVEL	9	9	8	7
ROLLING	11	10	9	8
MOUNTAINOUS	12	12	11	10

Maximum grades of short lengths (less than 500 ft.) and one-way down grades may be 2% steeper.

FIGURE A - 1 – 7[*]

FOOTNOTES

(1) 12' when Design year ADT exceeds 2000. Where feasible, lanes should be 12' in industrial areas; however, where available or attainable R/W imposes severe limitations, 10' lanes can be used in residential areas, based upon design speed and traffic volumes. (See AASHTO Green Bk., Exhibit 6-5).
11' lanes can be used in industrial areas.

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

(3) Or equivalent City or Town Design.

(4) 8' or more may be needed in commercial areas.

(5) 3:1 and flatter slopes may be used when right of way is behind the sidewalk (or sidewalk space) in residential or other areas where the slopes will be maintained by the property owner.

(6) Ditch slopes to be 4:1 - 6' width and 3:1 - 4' width.

(7) When Design year ADT exceeds 2000 VPD, with greater than 5% total truck and bus usage: Provide 4' wide paved shoulders when the graded shoulder is 5' wide or greater or provide 3' wide paved shoulders when the graded shoulder is 4' wide. 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. (See Standard GS-11 for shoulder design).

(8) Where the approach roadway width (traveled way plus shoulder) is surfaced, that surfaced width shall be carried across all structures if that width exceeds the width shown in this table.

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

(10) For buffer strip widths see IIM–LD–55.

(11) For intersection sight distance requirements see Appendix C, Table C-1-5.

[*] Rev. 7/09