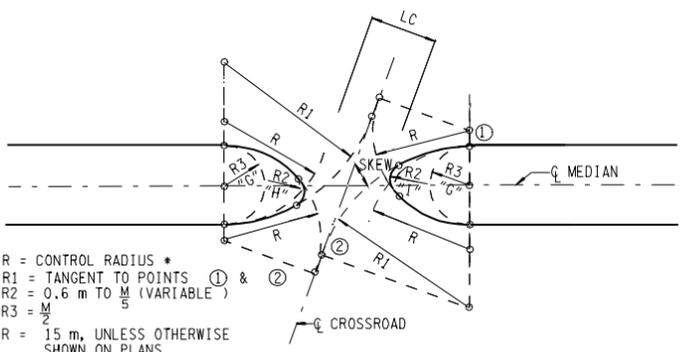
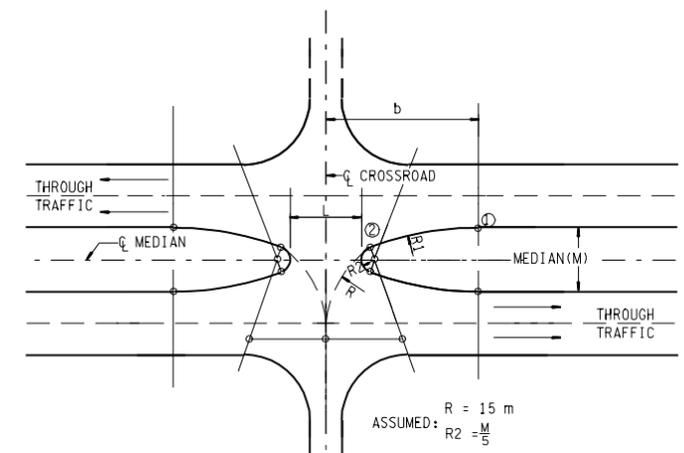


MINIMUM DESIGN OF MEDIAN FOR PERPENDICULAR CROSSROADS
NOTE: SEMICIRCULAR ENDS ARE NOT DESIRABLE FOR MEDIANS GREATER THAN 3 m IN WIDTH.



MINIMUM DESIGN OF MEDIAN OPENINGS FOR SKEWED CROSSROADS
TYPES "G", "H" & "I"
NOTE: ASYMMETRIC BULLET NOSE DESIGN, TYPE "I" IS PREFERABLE FOR SKEWED CROSSROADS.



MINIMUM DESIGN OF MEDIAN OPENINGS
TYPICAL BULLET NOSE END TYPES "L", "M" & "N"

NOTE: RADIUS R1 MAY VARY FROM 25 m TO 120 m OR MORE, DEPENDING ON THE TURNING SPEED DESIRED. THE TABULATED VALUES FOR TYPES "L", "M" & "N" OPENINGS ARE FOR SAFE TURNING SPEEDS OF 30, 40 AND 50 km/h, RESPECTIVELY.
NOTE: AT SKEWED INTERSECTIONS, THE ABOVE DESIGN CAN BE APPLIED TO EACH INTERSECTION INDIVIDUALLY. ADJUSTMENTS IN R1 & R2 FROM THE VALUES SHOWN ARE REQUIRED.

MEDIAN WIDTH M IN METERS	L = MINIMUM LENGTH OF MEDIAN OPENING (IN METERS)					
	P DESIGN VEHICLE CONTROL RADIUS=12 m		SU DESIGN VEHICLE CONTROL RADIUS=15 m		WB-12 DESIGN VEHICLE CONTROL RADIUS=23 m	
	SEMICIRCULAR TYPE "A"	BULLET NOSE TYPE "B"	SEMICIRCULAR TYPE "C"	BULLET NOSE TYPE "D"	SEMICIRCULAR TYPE "E"	BULLET NOSE TYPE "F"
1.2	22.8	22.8	28.8	28.8	43.8	36.6
1.8	22.2	18.0	28.2	22.8	43.2	34.5
2.4	21.6	15.9	27.6	20.4	42.6	33.0
3.0	21.0	14.1	27.0	18.6	43.0	31.5
3.6	20.4	12.9	26.4	17.4	41.4	30.0
4.2	19.8	12.0 MIN	25.8	15.9	40.8	28.8
4.8	19.2	12.0 MIN	25.2	15.0	40.2	27.6
6.0	18.0	12.0 MIN	24.0	13.2	39.0	25.5
7.2	16.8	12.0 MIN	22.8	12.0 MIN	37.8	23.4
8.4	15.6	12.0 MIN	21.6	12.0 MIN	36.6	21.9
9.6	14.4	12.0 MIN	20.4	12.0 MIN	35.4	20.1
10.8	13.2	12.0 MIN	19.2	12.0 MIN	34.2	18.6
12.0	12.0 MIN	12.0 MIN	18.0	12.0 MIN	30.0	17.1
15.0	12.0 MIN	12.0 MIN	15.0	12.0 MIN	-	-
18.0	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN	27.0	12.0 MIN
21.0	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN	-	12.0 MIN
24.0	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN	21.0	12.0 MIN
30.0	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN	15.0	12.0 MIN
33.0	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN	12.0 MIN

TABLE IS TAKEN FROM TABLE IX-16 (PAGE 754) AND TABLES IX-17 (PAGE 757) & IX-18 (PAGE 758).

SKEW ANGLE DEGREES	MEDIAN WIDTH IN METERS	LC = MINIMUM LENGTH OF MEDIAN OPENING (IN METERS) BASED ON CONTROL RADIUS OF 15 METERS			R1 FOR TYPE I IN METERS
		LC = LENGTH OF MEDIAN OPENING, IN METERS MEASURED NORMAL TO THE CROSSROAD			
		SEMICIRCULAR TYPE "G"	SEMICIRCULAR TYPE "H"	ASYMMETRICAL TYPE "I"	
90	3	27	19	-	-
	6	24	13	-	-
	9	21	12 MIN	-	-
	12	18	12 MIN	-	-
	15	15	12 MIN	-	-
	18	13	12 MIN	-	-
80	3	32	24	23	21
	6	28	17	16	20
	9	25	14	12 MIN	20
	12	21	12 MIN	12 MIN	19
	15	18	12 MIN	12 MIN	18
	18	14	12 MIN	12 MIN	18
70	3	36	29	27	29
	6	32	22	20	28
	9	28	18	14	26
	12	24	14	12 MIN	25
	15	20	12 MIN	12 MIN	23
	18	16	12 MIN	12 MIN	21
60	3	41	34	32	42
	6	36	27	23	39
	9	31	23	17	36
	12	27	19	13	33
	15	23	15	12 MIN	30
	18	18	12	12 MIN	27
50	3	44	38	35	63
	6	39	32	27	58
	9	35	27	20	53
	12	29	23	15	47
	15	24	19	12 MIN	42
	18	19	15	12 MIN	36

TABLE IS TAKEN FROM TABLE IX-19 (PAGE 766).

NOTE: IN GENERAL MEDIAN OPENINGS LONGER THAN 30 m SHOULD BE AVOIDED, REGARDLESS OF SKEW. THIS MAY CALL FOR SPECIAL CHANNELIZATION, LEFT TURN LANES, OR ADJUSTMENT TO REDUCE THE CROSSROAD SKEW, ALL OF WHICH RESULT IN ABOVE MINIMUM DESIGNS.

MEDIAN WIDTH IN METERS	DIMENSIONS (IN METERS)					
	R1=30 m		R1=50 m		R1=70 m	
	L	b	L	b	L	b
6.0	17.4	19.5	19.8	23.4	21.3	27.0
9.0	14.4	20.4	17.1	25.5	18.9	30.3
12.0	12.0	21.3	15.0	27.0	17.1	32.7
15.0	-	-	13.2	28.5	15.3	34.5
18.0	-	-	-	-	13.8	36.6
21.0	-	-	-	-	12.3	38.4

THIS DETAIL AND TABLE ARE TAKEN FROM FIGURE IX-64 (PAGE 769).

DESIGN VEHICLE DIMENSIONS (IN METERS)											
DESIGN VEHICLE		OVERALL			OVERHANG		WHEELBASES			S	T
TYPE	SYMBOL	HEIGHT	WIDTH	LENGTH	FRONT	REAR	WB1	WB2	WB3		
PASSENGER CAR	P	1.3	2.1	5.8	0.9	1.5	3.4	-	-	-	-
SINGLE UNIT TRUCK	SU	4.1	2.6	9.1	1.2	1.8	6.1	-	-	-	-
INTERMEDIATE SEMITRAILER COMBINATION	WB-12	4.1	2.6	15.2	1.2	1.8	4.0	8.2	-	-	-
LARGE SEMITRAILER COMBINATION	WB-15	4.1	2.6	16.7	0.9	0.6	6.1	9.1	-	-	-
DOUBLE SEMITRAILER	WB-18	4.1	2.6	19.9	0.6	0.9	3.0	6.1	6.4	1.2	1.6
INTERSTATE SEMITRAILER	WB-19	4.1	2.6	21.0	1.2	0.9	6.1	12.8	-	-	-
INTERSTATE SEMITRAILER	WB-20	4.1	2.6	22.5	1.2	0.9	6.1	14.3	-	-	-

FOR ADDITIONAL DESIGN VEHICLES SEE TABLE I1-1 (PAGE 21).
S IS THE DISTANCE FROM THE REAR EFFECTIVE AXLE TO THE HITCH POINT.
T IS THE DISTANCE FROM THE HITCH POINT TO THE LEAD EFFECTIVE AXLE OF THE FOLLOWING UNIT.

MINIMUM DESIGNS FOR U-TURNS - TYPE "J"						
TYPE OF MANEUVER	M - MINIMUM WIDTH OF MEDIAN (IN METERS) FOR DESIGN VEHICLE					
	P	WB-12	SU	BUS	WB-15	WB-18
	LENGTH OF DESIGN VEHICLE					
	5.7	15.0	9.0	12.0	16.5	19.5
INNER LANE TO INNER LANE	9	18	19	19	21	21
INNER LANE TO OUTER LANE	5	15	15	15	18	18
INNER LANE TO SHOULDER	2	12	12	12	15	15

TABLE IS TAKEN FROM FIGURE IX-69 (PAGE 776).

NOTE: WHERE OCCASIONAL U-TURNS ARE MADE IN EITHER DIRECTION, A SYMMETRICAL OPENING SHOULD BE USED AND THE LENGTH OF THE OPENING SHOULD BE FOR THE DESIGN VEHICLE USED. WHEN FREQUENT U-TURNS IN BOTH DIRECTIONS ARE ANTICIPATED, INCREASE THE LENGTH OF THE OPENING OR PROVIDE SEPARATE ONE WAY OPENINGS.

- SEPARATE U-TURN MEDIAN OPENINGS MAY FIT AT THE FOLLOWING LOCATIONS
- BEYOND INTERSECTIONS TO ACCOMMODATE MINOR TURNING MOVEMENTS NOT OTHERWISE PROVIDED IN THE INTERSECTION OR INTERCHANGE AREA.
 - JUST AHEAD OF AN INTERSECTION TO ACCOMMODATE U-TURN MOVEMENTS THAT WOULD INTERFERE WITH THROUGH AND OTHER TURNING MOVEMENTS AT THE INTERSECTION.
 - OCCURRING IN CONJUNCTION WITH MINOR CROSSROADS WHERE TRAFFIC IS NOT PERMITTED TO CROSS THE MAJOR HIGHWAY BUT INSTEAD IS REQUIRED TO TURN RIGHT, ENTER THE THROUGH TRAFFIC STREAM, WEAVE TO THE LEFT, U-TURN, THEN RETURN.
 - OCCURRING WHERE REGULARLY SPACED OPENINGS FACILITATE MAINTENANCE OPERATIONS, POLICING, REPAIR SERVICE OF STALLED VEHICLES, OR OTHER HIGHWAY-RELATED ACTIVITIES.
 - OCCURRING ON HIGHWAYS WITHOUT ACCESS CONTROL WHERE MEDIAN OPENINGS AT OPTIMUM SPACING ARE PROVIDED TO SERVE EXISTING FRONTAGE DEVELOPMENTS AND AT THE SAME TIME MINIMIZE PRESSURE FOR FUTURE MEDIAN OPENINGS.

- GENERAL NOTES
- FOR SPECIFIC CONDITIONS NOT COVERED ON THIS SHEET, REFERENCE SHOULD BE MADE TO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", 1994.
 - PAGE NUMBERS REFERRED TO ON THIS DRAWING ARE FROM THE ABOVE REFERENCE.

DESIGN CONTROLS FOR MINIMUM MEDIAN OPENINGS			
DESIGN VEHICLES ACCOMMODATED		CONTROL RADIUS (METERS)	
PREDOMINANT	OCCASIONAL		
P	SU		12
SU	WB-12		15
WB-12	WB-15		23

TABLE IS TAKEN FROM TABLE IX-20 (PAGE 767).



NOTE: ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

MEDIAN OPENINGS ON 4-LANE DIVIDED HIGHWAY