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e	V = 50 km/h			V = 60 km/h			V = 70 km/h		
	R(m)	Trans. Length		R(m)	Trans. Length		R(m)	Trans. Length	
		L(m)	TR(m)		L(m)	TR(m)		L(m)	TR(m)
NC	R ≥ 1090	0	0	R ≥ 1495	0	0	R ≥ 1970	0	0
2.0%	1090 > R ≥ 795	30	30.00	1495 > R ≥ 1095	35	35.00	1970 > R ≥ 1445	40	40.00
3.0%	795 > R ≥ 500	30	20.00	1095 > R ≥ 700	35	23.33	1445 > R ≥ 925	40	26.67
4.0%	500 > R ≥ 350	30	15.00	700 > R ≥ 490	35	17.50	925 > R ≥ 650	40	20.00
5.0%	350 > R ≥ 260	30	12.00	490 > R ≥ 365	35	14.00	650 > R ≥ 490	40	16.00
6.0%	260 > R ≥ 190	35	11.67	365 > R ≥ 270	40	13.33	490 > R ≥ 370	40	13.33
7.0%	190 > R ≥ 135	40	11.43	270 > R ≥ 200	45	12.86	370 > R ≥ 275	50	14.29
8.0%	135 > R ≥ 80	45	11.25	200 > R ≥ 125	50	12.50	275 > R ≥ 175	55	13.75
R <sub>min</sub> = 80 m			R <sub>min</sub> = 125 m			R <sub>min</sub> = 175 m			

e	V = 80 km/h			V = 90 km/h			V = 100 km/h		
	R(m)	Trans. Length		R(m)	Trans. Length		R(m)	Trans. Length	
		L(m)	TR(m)		L(m)	TR(m)		L(m)	TR(m)
NC	R ≥ 2440	0	0	R ≥ 2965	0	0	R ≥ 3625	0	0
2.0%	2440 > R ≥ 1795	45	45.00	2965 > R ≥ 2185	50	55.00	3625 > R ≥ 2675	60	60.00
3.0%	1795 > R ≥ 1170	45	30.00	2185 > R ≥ 1400	50	33.33	2675 > R ≥ 1750	60	40.00
4.0%	1170 > R ≥ 825	45	22.50	1400 > R ≥ 1000	50	25.00	1750 > R ≥ 1250	60	30.00
5.0%	825 > R ≥ 620	45	18.00	1000 > R ≥ 770	50	20.00	1250 > R ≥ 950	60	24.00
6.0%	620 > R ≥ 475	45	15.00	770 > R ≥ 600	50	16.67	950 > R ≥ 750	60	20.00
7.0%	475 > R ≥ 360	55	15.71	600 > R ≥ 465	55	15.71	750 > R ≥ 590	60	17.14
8.0%	360 > R ≥ 230	60	15.00	465 > R ≥ 305	65	16.25	590 > R ≥ 395	65	16.25
R <sub>min</sub> = 230 m			R <sub>min</sub> = 305 m			R <sub>min</sub> = 395 m			

e	V = 110 km/h		
	R(m)	Trans. Length	
		L(m)	TR(m)
NC	R ≥ 4180	0	0
2.0%	4180 > R ≥ 3095	65	65.00
3.0%	3095 > R ≥ 2000	65	43.33
4.0%	2000 > R ≥ 1465	65	32.50
5.0%	1465 > R ≥ 1140	65	26.00
6.0%	1140 > R ≥ 900	65	21.67
7.0%	900 > R ≥ 735	65	18.57
8.0%	735 > R ≥ 500	70	17.50
R <sub>min</sub> = 500 m			

e<sub>max</sub> = 8.0%

**Key:**

- R = Radius of curve, m
- V = Design speed, km/h
- e = Superelevation rate, %
- L = Minimum length of superelevation runoff (from adverse slope removed to full super), m
- TR = Tangent runout from NC to adverse slope removed, m
- NC = Normal crown = 2.0%

Note: See Figure 9.2C for typical selection of curve radii.

**RATE OF SUPERELEVATION AND MINIMUM LENGTH OF TRANSITION  
(Two-Lane, Two-Way Highways; Open Roadways)**

**Figure 9.3A (Metric)**