

**DESIGN FACTORS FOR A DESIGN SPEED OF 40 MPH  
(URBAN) USING E= 4% MAX.**

RADIUS (FEET)	E (%)	PAVEMENT WIDTH											
		24 FT		36 FT		48 FT		60 FT		66 FT		72 FT	
		DESIGN SOFTWARE EQUIVALENTS (NUMBER OF LANES AT LANE WIDTH)											
		1 @ 12'		1.5 @ 12'		2 @ 12'		3 @ 10'		3 @ 11'		3 @ 12'	
		Lt	Lr	Lt	Lr	Lt	Lr	Lt	Lr	Lt	Lr	Lt	Lr
5000	NC	0	0	0	0	0	0	0	0	0	0	0	0
3273	2.0	42	42	52	52	63	63	69	69	76	76	83	83
3039	2.1	42	44	52	55	63	66	69	73	76	80	83	87
2820	2.2	42	46	52	57	63	69	69	76	76	84	83	92
2612	2.3	42	48	52	60	63	72	69	80	76	88	83	96
2411	2.4	42	50	52	63	63	75	69	83	76	92	83	100
2209	2.5	42	52	52	65	63	78	69	87	76	95	83	104
2010	2.6	42	54	52	68	63	81	69	90	76	99	83	108
1839	2.7	42	56	52	70	63	84	69	94	76	103	83	112
1689	2.8	42	58	52	73	63	87	69	97	76	107	83	116
1557	2.9	42	60	52	75	63	90	69	100	76	110	83	120
1439	3.0	42	63	52	78	63	94	69	104	76	114	83	125
1332	3.1	42	65	52	81	63	97	69	107	76	118	83	129
1236	3.2	42	67	52	83	63	100	69	111	76	122	83	133
1148	3.3	42	69	52	86	63	103	69	114	76	126	83	137
1066	3.4	42	71	52	88	63	106	69	118	76	129	83	141
989	3.5	42	73	52	91	63	109	69	121	76	133	83	145
916	3.6	42	75	52	94	63	112	69	125	76	137	83	149
845	3.7	42	77	52	96	63	115	69	128	76	141	83	154
774	3.8	42	79	52	99	63	118	69	132	76	145	83	158
698	3.9	42	81	52	101	63	122	69	135	76	148	83	162
563	4.0	42	83	52	104	63	125	69	138	76	152	83	166

NOTE:

Lt AND Lr VALUES IN FEET.

FOR PAVEMENT WIDTHS GREATER THAN 72 FEET USE Lr VALUES DEVELOPED BY THE DESIGN SOFTWARE.

LISTED RADIUS IS THE MINIMUM ALLOWABLE RADIUS FOR THE CORRESPONDING E, Lt, AND Lr VALUES.

**TRANSITION CURVES - URBAN  
40 MPH DESIGN SPEED**

VIRGINIA DEPARTMENT OF TRANSPORTATION