802.34

TC-5.01

REVISED 3/03 REVISED 1/04 REVISED 1/07

TRANSITION CURVES - RURAL
20 MPH DESIGN SPEED

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

DESIGN FACTORS FOR A DESIGN SPEED OF 20 MPH (RURAL) USING E= 8% MAX.

DESIGN VELOCITY =20		WIDTH= 18 FT			WIDTH=20 FT			WIDTH=22 FT			WIDTH=24 FT			WIDTH=48 FT			INTERCHANGE RAMPS WIDTH			
		DESIGN SOFTWARE EQUIVALENTS (NUMBER OF LANES AT LANE WIDTH)																		
		1 @ 9'			1 @ 10'			1 @ 11'			1 @ 12'			2 @ 12'			16 FT		18 FT	
RADIUS(FT)	E(%)	CR	LS	w	CR	LS	w	CR	LS	w	CR	LS	w	CR	LS	w	CR	LS	CR	LS
1800	NC	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0	0
1213	2.0	60	60	2.0	28	28	0.0	30	30	0.0	33	33	0.0	49	49	0.0	39	39	41	41
1148	2.1	58	60	2.1	28	29	0.0	30	32	0.0	33	35	0.0	49	52	0.0	39	40	41	43
1090	2.2	55	60	2.1	28	30	0.0	30	33	0.0	33	36	0.0	49	54	0.0	39	42	41	45
1036	2.3	53	60	2.1	28	32	0.0	30	35	0.0	33	38	0.0	49	56	0.0	39	44	41	47
987	2.4	50	60	2.2	28	33	0.0	30	36	0.0	33	39	0.0	49	59	0.0	39	46	41	49
941	2.5	48	60	2.2	28	34	0.0	30	38	0.0	33	41	0.0	49	61	0.0	39	48	41	51
899	2.6	47	60	2.3	28	36	0.0	30	39	0.0	33	43	0.0	49	64	0.0	39	50	41	53
860	2.7	45	60	2.3	28	37	0.0	30	41	0.0	33	44	0.0	49	66	0.0	39	52	41	55
824	2.8	43	60	2.3	28	38	0.0	30	42	0.0	33	46	0.0	49	69	0.0	39	54	41	57
790	2.9	42	60	2.4	28	40	0.0	30	44	0.0	33	48	0.0	49	71	0.0	39	56	41	59
759	3.0	40	60	2.4	28	41	0.0	30	45	0.0	33	49	0.0	49	73	0.0	39	58	41	61
729	3.1	39	60	2.5	28	42	0.0	30	47	0.0	33	51	0.0	49	76	0.0	39	60	41	63
701	3.2	38	60	2.5	28	44	0.0	30	48	0.0	33	52	0.0	49	78	0.0	39	61	41	65
674	3.3	37	60	2.5	28	45	0.0	30	50	0.0	33	54	0.0	49	81	0.0	39	63	41	67
650	3.4	36	60	2.6	28	46	0.0	30	51	0.0	33	56	0.0	49	83	0.0	39	65	41	69
626	3.5	35	60	2.6	28	48	0.0	30	53	0.0	33	57	0.0	49	86	0.0	39	67	41	71
604	3.6	34	60	2.7	28	49	0.0	30	54	0.0	33	59	0.0	49	88	0.0	39	69	41	73
582	3.7	33	60	2.7	28	50	0.0	30	55	0.0	33	60	0.0	49	90	0.0	39	71	41	75
562	3.8	32	60	2.8	28	52	0.0	30	57	0.0	33	62	0.0	49	93	0.0	39	73	41	77
543	3.9	31	60	2.8	28	53	0.0	30	58	0.0	33	62	0.0	49	95	0.0	39	75	41	79
524	4.0	30	60	2.9	28	55	0.0	30	60	0.0	33	65	0.0	49	98	0.0	39	77	41	81
506	4.1	30	60	2.9	28	56	0.0	30	61	0.0	33	67	0.0	49	100	0.0	39	79	41	83
489	4.2	29	60	3.0	30	63	2.0	30	63	0.0	33	69	0.0	49	103	0.0	39	80	41	85
473	4.3	29	62	3.0	30	64	2.0	30	64	0.0	33	70	0.0	49	105	0.0	39	82	41	87
457	4.4	29	63	3.0	30	66	2.0	30	66	0.0	33	72	0.0	49	108	0.0	39	84	41	89
442	4.5	29	65	3.1	31	68	2.1	30	67	0.0	33	73	0.0	49	110	0.0	39	86	41	92
427	4.6	29	66	3.2	30	69	2.2	30	69	0.0	33	75	0.0	49	112	0.0	39	88	41	94
413	4.7	29	68	3.2	31	71	2.2	30	70	0.0	33	77	0.0	49	115	0.0	39	90	41	96
399	4.8	30	70	3.3	31	73	2.3	30	72	0.0	33	78	0.0	49	117	0.0	39	92	41	98
385	4.9	29	71	3.3	31	74	2.3	30	73	0.0	33	80	0.0	49	120	0.0	39	94	41	100
372	5.0	30	73	3.4	31	76	2.4	30	75	0.0	33	82	0.0	49	122	0.0	39	96	41	102
358	5.1	30	75	3.5	31	78	2.5	30	76	0.0	33	83	0.0	49	125	0.0	39	98	41	104
345	5.2	30	76	3.5	31	80	2.5	30	78	0.0	33	85	0.0	49	127	0.0	39	100	41	106
332	5.3	30	78	3.6	31	81	2.6	30	79	0.0	33	86	0.0	49	129	0.0	39	101	41	108
320	5.4	30	80	3.7	31	83	2.7	30	81	0.0	33	88	0.0	49	132	0.0	39	103	41	110
308	5.5	30	82	3.8	31	85	2.8	30	82	0.0	33	90	0.0	49	134	0.0	39	105	41	112
297	5.6	30	83	3.9	32	87	2.9	30	84	0.0	33	91	0.0	49	137	0.0	39	107	41	114
286	5.7	30	85	3.9	32	89	2.9	30	85	0.0	33	93	0.0	49	139	0.0	39	109	41	116
276	5.8	30	87	4.0	32	91	3.0	33	95	2.0	33	95	0.0	53	153	2.0	39	111	41	118
266	5.9	31	89	4.1	32	93	3.1	33	97	2.1	33	96	0.0	54	157	2.2	39	113	41	120
258	6.0	30	90	4.2	32	95	3.2	33	99	2.2	33	98	0.0	54	161	2.4	39	115	41	122
248	6.1	31	92	4.3	32	97	3.3	34	101	2.3	33	99	0.0	55	165	2.6	39	117	41	124
240	6.2	31	94	4.4	32	99	3.4	34	103	2.4	33	101	0.0	55	169	2.8	39	119	41	126
232	6.3	31	96	4.5	33	101	3.5	34	105	2.5	33	103	0.0	55	173	3.0	39	120	41	128
225	6.4	31	98	4.6	33	103	3.6	34	107	2.6	33	104	0.0	56	177	3.2	39	122	41	130
217	6.5	31	100	4.7	33	105	3.7	34	109	2.7	33	106	0.0	56	181	3.4	39	124	41	132
209	6.6	31	102	4.8	33	107	3.8	34	111	2.8	33	108	0.0	57	185	3.6	39	126	41	134
202	6.7	32	104	4.9	33	109	3.9	34	113	2.9	33	109	0.0	57	189	3.8	39	128	41	136
196	6.8	32	106	5.0	33	111	4.0	34	115	3.0	36	120	2.0	57	193	4.0	39	130	41	138
189	6.9	32	108	5.1	33	113	4.1	35	118	3.1	36	122	2.1	58	198	4.2	39	132	41	140
183	7.0	32	110	5.2	33	115	4.2	35	120	3.2	36	124	2.2	58	202	4.4	39	134	41	142
176	7.1	32	112	5.3	33	117	4.3	35	122	3.3	36	127	2.3	59	206	4.6	39	136	41	144
170	7.2	32	115	5.5	34	120	4.5	35	125	3.5	36	129	2.5	59	212	5.0	39	138	41	146
164	7.3	33	117	5.6	34	122	4.6	35	127	3.6	37	132	2.6	60	217	5.2	39	140	41	148
158	7.4	33	119	5.8	34	124	4.8	35	129	3.8	37	134	2.8	60	222	5.6	39	141	41	150
152	7.5	33	122	5.9	34	127	4.9	36	132	3.9	37	137	2.9	61	227	5.8	39	143	41	152
146	7.6	33	124	6.1	34	129	5.1	36	135	4.1	37	140	3.1	62	233	6.2	39	145	41	154
139	7.7	33	127	6.3	35	132	5.3	36	137	4.3	38	143	3.3	63	239	6.6	39	147	41	156
132	7.8	34	130	6.5	35	135	5.5	36	140	4.5	38	145	3.5	64	246	7.0	39	149	41	158
124	7.9	34	133	6.8	35	138	5.8	37	144	4.8	38	149	3.8	65	254	7.6	39	151	41	160
108	8.0	35	139	7.6	36	144	6.6	38	150	5.6	39	155	4.6	68	270	9.2	39	153	41	162

NOTE:
CR, LS & w VALUES IN FEET. LISTED RADIUS IS THE MINIMUM ALLOWABLE RADIUS FOR THE CORRESPONDING E, CR, LS, AND w VALUES.