NOTE:
Lt, Lr & w VALUES IN FEET. LISTED RADIUS IS THE MINIMUM ALLOWABLE RADIUS FOR THE CORRESPONDING E, Lt, Lr, AND w VALUES.
WIDENING SHOWN IS BASED ON A WB-62 DESIGN VEHICLE.

TRANSITION CURVES - RURAL
40 MPH DESIGN SPEED

VIRGINIA DEPARTMENT OF TRANSPORTATION

DESIGN FACTORS FOR A DESIGN SPEED OF 40 MPH (RURAL) USING E= 8% MAX.

DESIGN VELOCITY =40		WIDTH= 18 FT			WIDTH=20 FT			WIDTH=22 FT			WIDTH=24 FT			WIDTH=48 FT			WIDTH=72 FT			INTERCHANGE RAMPS WIDTH			
		DESIGN SOFTWARE EQUIVALENTS (NUMBER OF LANES AT LANE WIDTH)																					
		1 @ 9'			1 @ 10'			1 @ 11'			1 @ 12'			2 @ 12'			3 @ 12'			16 FT		18 FT	
RADIUS(FT)	E(%)	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	Lt	Lr
5410	NC	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4120	2	37	37	3.1	39	39	2.1	38	38	0	42	42	0	63	63	0	83	83	0	49	49	52	52
3920	2.1	37	39	3.2	39	41	2.2	38	40	0	42	44	0	63	66	0	83	87	0	49	51	52	54
3640	2.2	37	41	3.2	39	43	2.2	38	42	0	42	46	0	63	69	0	83	92	0	49	54	52	57
3480	2.3	37	43	3.3	39	45	2.3	38	44	0	42	48	0	63	72	0	83	96	0	49	56	52	60
3400	2.4	37	45	3.3	39	47	2.3	38	46	0	42	50	0	63	75	0	83	100	0	49	59	52	62
3160	2.5	37	47	3.4	39	49	2.4	38	48	0	42	52	0	63	78	0	83	104	0	49	61	52	65
3094	2.6	37	48	3.4	39	51	2.4	38	50	0	42	54	0	63	81	0	83	108	0	49	64	52	67
2970	2.7	37	50	3.4	39	53	2.4	38	52	0	42	56	0	63	84	0	83	112	0	49	66	52	70
2784	2.8	84	52	3.5	39	55	2.5	38	54	0	42	58	0	63	87	0	83	116	0	49	68	52	72
2712	2.9	81	54	3.5	39	57	2.5	38	55	0	42	60	0	63	90	0	83	120	0	49	71	52	75
2556	3	78	56	3.6	39	59	2.6	38	57	0	42	63	0	63	94	0	83	125	0	49	73	52	78
2472	3.1	76	58	3.6	39	61	2.6	38	59	0	42	65	0	63	97	0	83	129	0	49	76	52	80
2395	3.2	74	60	3.7	40	63	2.7	38	61	0	42	67	0	63	100	0	83	133	0	49	78	52	83
2294	3.3	71	62	3.7	40	65	2.7	38	63	0	42	69	0	63	103	0	83	137	0	49	80	52	85
2212	3.4	69	64	3.8	40	67	2.8	38	65	0	42	71	0	63	106	0	83	141	0	49	83	52	88
2171	3.5	67	66	3.8	40	69	2.8	38	67	0	42	73	0	63	109	0	83	145	0	49	85	52	90
2073	3.6	65	68	3.9	40	72	2.9	38	69	0	42	75	0	63	112	0	83	149	0	49	88	52	93
2001	3.7	64	70	3.9	40	74	2.9	38	71	0	42	77	0	63	115	0	83	154	0	49	90	52	96
1941	3.8	62	73	4	40	76	3	42	79	2	42	79	0	63	118	0	83	158	0	49	93	52	98
1856	3.9	60	74	4	40	78	3	42	81	2	42	81	0	63	122	0	83	162	0	49	95	52	101
1800	4	59	77	4.1	40	80	3.1	42	84	2.1	42	83	0	63	125	0	83	166	0	49	97	52	103
1744	4.1	58	79	4.1	40	82	3.1	42	86	2.1	42	85	0	63	128	0	83	170	0	49	100	52	106
1689	4.2	56	81	4.2	40	84	3.2	42	88	2.2	42	87	0	63	131	0	83	174	0	49	102	52	108
1635	4.3	55	83	4.2	40	86	3.2	42	90	2.2	42	89	0	63	134	0	83	178	0	49	105	52	111
1581	4.4	54	85	4.3	41	89	3.3	42	93	2.3	42	92	0	63	137	0	83	183	0	49	107	52	114
1527	4.5	52	87	4.3	41	91	3.3	42	95	2.3	42	94	0	63	140	0	83	187	0	49	110	52	116
1502	4.6	51	89	4.4	41	93	3.4	43	97	2.4	42	96	0	63	143	0	83	191	0	49	112	52	119
1477	4.7	50	91	4.4	41	95	3.4	43	99	2.4	42	98	0	63	146	0	83	195	0	49	114	52	121
1424	4.8	49	94	4.5	41	98	3.5	43	102	2.5	42	100	0	63	149	0	83	199	0	49	117	52	124
1368	4.9	48	96	4.5	41	100	3.5	43	104	2.5	42	102	0	63	153	0	83	203	0	49	119	52	126
1346	5	47	98	4.6	41	102	3.6	43	107	2.6	42	104	0	63	156	0	83	207	0	49	122	52	129
1296	5.1	46	100	4.7	41	105	3.7	43	109	2.7	42	106	0	63	159	0	83	212	0	49	124	52	132
1267	5.2	45	102	4.7	41	107	3.7	43	111	2.7	42	108	0	63	162	0	83	216	0	49	127	52	134
1220	5.3	45	105	4.8	42	109	3.8	43	114	2.8	42	110	0	63	165	0	83	220	0	49	129	52	137
1190	5.4	44	107	4.8	42	111	3.8	43	116	2.8	42	112	0	63	168	0	83	224	0	49	131	52	139
1160	5.5	43	109	4.9	42	114	3.9	43	119	2.9	42	114	0	63	171	0	83	228	0	49	134	52	142
1101	5.6	42	112	5	42	116	4	44	121	3	45	126	2	68	189	4	90	252	6	49	136	52	144
1081	5.7	42	114	5.1	42	119	4.1	44	124	3.1	45	129	2.1	68	193	4.2	90	257	6.3	49	139	52	147
1054	5.8	41	116	5.1	42	121	4.1	44	126	3.1	45	131	2.1	68	196	4.2	90	261	6.3	49	141	52	150
1025	5.9	40	118	5.2	42	124	4.2	44	129	3.2	46	134	2.2	68	200	4.4	91	267	6.6	49	144	52	152
988	6	41	121	5.3	42	126	4.3	44	131	3.3	46	137	2.3	69	205	4.6	91	273	6.9	49	146	52	155
957	6.1	41	124	5.4	43	129	4.4	44	134	3.4	46	139	2.4	69	209	4.8	92	278	7.2	49	148	52	157
942	6.2	41	126	5.4	43	131	4.4	44	136	3.4	46	142	2.4	69	212	4.8	92	283	7.2	49	151	52	160
912	6.3	41	128	5.5	43	134	4.5	44	139	3.5	46	144	2.5	69	216	5	92	288	7.5	49	153	52	162
875	6.4	41	131	5.6	43	136	4.6	45	142	3.6	46	147	2.6	69	221	5.2	92	294	7.8	49	156	52	165
866	6.5	41	133	5.6	43	138	4.6	45	144	3.6	46	150	2.6	69	224	5.2	92	299	7.8	49	158	52	168
837	6.6	41	135	5.7	43	141	4.7	45	147	3.7	47	152	2.7	70	228	5.4	93	304	8.1	49	160	52	170
806	6.7	42	139	5.9	43	144	4.9	45	150	3.9	47	156	2.9	70	234	5.8	93	311	8.7	49	163	52	173
782	6.8	42	141	6	44	147	5	45	153	4	47	159	3	70	238	6	94	317	9	49	165	52	175
754	6.9	42	144	6.1	44	150	5.1	45	156	4.1	47	162	3.1	71	242	6.2	94	323	9.3	49	168	52	178
744	7	42	146	6.1	44	152	5.1	45	158	4.1	47	164	3.1	71	246	6.2	94	328	9.3	49	170	52	180
714	7.1	42	149	6.3	44	155	5.3	46	161	4.3	48	168	3.3	71	251	6.6	95	335	9.9	49	173	52	183
692	7.2	43	152	6.4	44	158	5.4	46	164	4.4	48	171	3.4	71	256	6.8	95	341	10.2	49	175	52	186
663	7.3	43	155	6.5	45	161	5.5	46	167	4.5	48	174	3.5	72	260	7	95	347	10.5	49	177	52	188
651	7.4	43	157	6.6	45	164	5.6	46	170	4.6	48	177	3.6	72	265	7.2	96	353	10.8	49	180	52	191
622	7.5	43	161	6.8	45	167	5.8	47	174	4.8	48	180	3.8	72	270	7.6	96	360	11.4	49	182	52	193
597	7.6	44	164	6.9	45	170	5.9	47	177	4.9	49	183	3.9	73	275	7.8	97	366	11.7	49	185	52	196
581	7.7	44	166	7	45	173	6	47	180	5	49	186	4	73	279	8	97	372	12	49	187	52	198
561	7.8	44	170	7.2	46	177	6.2	47	183	5.2	49	190	4.2	73	285	8.4	98	380	12.6	49	190	52	201
535	7.9	44	173	7.4	46	180	6.4	48	187	5.4	49	194	4.4	74	291	8.8	98	387	13.2	49	192	52	204
446	8	46	182	8.3	48	189	7.3	49	196	6.3	51	203	5.3	76	304	10.6	102	405	15.9	49	194	52	206

SPECIFICATION REFERENCE

2016 ROAD & BRIDGE STANDARDS

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