

TC-5.11

DESIGN FACTORS FOR A DESIGN SPEED OF 30 MPH (RURAL) USING E= 8% MAX.

DESIGN VELOCITY +30 RADIUS(FT)	WIDTH+ 18 FT			WIDTH+20 FT			WIDTH+22 FT			WIDTH+24 FT			WIDTH+48 FT			INTERCHANGE RAMPS							
	DESIGN SOFTWARE EQUIVALENTS (NUMBER OF LANES AT LANE WIDTH)									WIDTH													
	1 @ 9'			1 @ 10'			1 @ 11'			1 @ 12'			2 @ 12'			16 FT			18 FT				
	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr	w	Lt	Lr
3240	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2400	2	31	31	2	31	31	0	34	34	0	34	34	0	37	37	0	55	55	0	43	43	45	45
2360	2.1	31	32	2	31	32	0	34	35	0	34	35	0	37	39	0	55	58	0	43	45	45	48
2200	2.2	31	34	2	31	34	0	34	37	0	34	37	0	37	40	0	55	60	0	43	47	45	50
2040	2.3	31	36	2.1	31	35	0	34	39	0	34	42	0	37	42	0	55	63	0	43	50	45	52
2000	2.4	31	37	2.1	31	37	0	34	40	0	34	44	0	37	44	0	55	66	0	43	52	45	54
1920	2.5	32	39	2.1	31	38	0	34	42	0	34	46	0	37	46	0	55	69	0	43	54	45	57
1840	2.6	31	40	2.1	31	40	0	34	44	0	34	48	0	37	48	0	55	71	0	43	56	45	59
1760	2.7	32	42	2.2	31	41	0	34	45	0	34	50	0	37	50	0	55	74	0	43	58	45	61
1680	2.8	31	43	2.2	31	43	0	34	47	0	34	51	0	37	51	0	55	77	0	43	60	45	63
1600	2.9	32	45	2.3	31	44	0	34	49	0	34	53	0	37	53	0	55	80	0	43	62	45	66
1520	3	32	47	2.3	31	46	0	34	50	0	34	55	0	37	55	0	55	82	0	43	64	45	68
1440	3.1	31	48	2.3	31	47	0	34	52	0	34	57	0	37	57	0	55	85	0	43	67	45	70
1430	3.2	32	50	2.4	31	49	0	34	54	0	34	59	0	37	59	0	55	88	0	43	69	45	72
1352	3.3	31	51	2.4	31	50	0	34	55	0	34	60	0	37	60	0	55	90	0	43	71	45	75
1288	3.4	32	53	2.5	31	52	0	34	57	0	34	62	0	37	62	0	55	93	0	43	73	45	77
1259	3.5	32	55	2.5	31	54	0	34	59	0	34	64	0	37	64	0	55	96	0	43	75	45	79
1203	3.6	32	56	2.5	31	55	0	34	60	0	34	66	0	37	66	0	55	99	0	43	77	45	81
1182	3.7	32	58	2.5	31	57	0	34	62	0	34	68	0	37	68	0	55	101	0	43	79	45	84
1120	3.8	32	60	2.6	31	58	0	34	64	0	34	70	0	37	70	0	55	104	0	43	82	45	86
1090	3.9	32	61	2.6	31	60	0	34	65	0	34	71	0	37	71	0	55	107	0	43	84	45	88
1038	4	32	63	2.7	31	61	0	34	67	0	34	73	0	37	73	0	55	110	0	43	86	45	90
1010	4.1	32	65	2.7	31	63	0	34	69	0	34	75	0	37	75	0	55	112	0	43	88	45	93
980	4.2	32	67	2.8	31	64	0	34	70	0	34	77	0	37	77	0	55	115	0	43	90	45	95
941	4.3	32	68	2.8	31	66	0	34	72	0	34	79	0	37	79	0	55	118	0	43	92	45	97
910	4.4	32	70	2.9	31	67	0	34	74	0	34	80	0	37	80	0	55	120	0	43	94	45	99
878	4.5	32	72	2.9	31	69	0	34	75	0	34	82	0	37	82	0	55	123	0	43	96	45	102
863	4.6	32	73	2.9	31	70	0	34	77	0	34	84	0	37	84	0	55	126	0	43	99	45	104
824	4.7	32	75	3	34	79	2	34	79	2	34	86	0	37	86	0	55	129	0	43	101	45	106
807	4.8	33	77	3	34	80	2	34	80	2	34	88	0	37	88	0	55	131	0	43	103	45	108
781	4.9	33	79	3.1	34	83	2.1	34	82	0	37	90	0	37	90	0	55	134	0	43	105	45	111
742	5	32	80	3.1	34	84	2.1	34	84	0	37	91	0	37	91	0	55	137	0	43	107	45	113
731	5.1	33	82	3.2	34	86	2.2	34	85	0	37	93	0	37	93	0	55	140	0	43	109	45	115
698	5.2	33	84	3.2	34	88	2.2	34	87	0	37	95	0	37	95	0	55	142	0	43	111	45	117
675	5.3	33	86	3.3	34	90	2.3	34	89	0	37	97	0	37	97	0	55	145	0	43	114	45	120
647	5.4	33	88	3.4	34	92	2.4	34	90	0	37	99	0	37	99	0	55	148	0	43	116	45	122
626	5.5	33	90	3.4	35	94	2.4	34	92	0	37	100	0	37	100	0	55	150	0	43	118	45	124
604	5.6	33	92	3.5	35	96	2.5	34	94	0	37	102	0	37	102	0	55	153	0	43	120	45	126
573	5.7	33	94	3.6	35	98	2.6	34	95	0	37	104	0	37	104	0	55	156	0	43	122	45	129
565	5.8	33	95	3.6	35	100	2.6	34	97	0	37	106	0	37	106	0	55	159	0	43	124	45	131
543	5.9	33	97	3.7	35	102	2.7	34	99	0	37	108	0	37	108	0	55	161	0	43	126	45	133
522	6	34	100	3.8	35	104	2.8	34	100	0	37	110	0	37	110	0	55	164	0	43	128	45	135
510	6.1	34	101	3.8	35	106	2.8	34	102	0	37	111	0	37	111	0	55	167	0	43	131	45	138
486	6.2	34	103	3.9	35	108	2.9	34	104	0	37	113	0	37	113	0	55	170	0	43	133	45	140
464	6.3	34	105	4	35	110	3	37	115	2	37	115	0	37	115	0	55	172	0	43	135	45	142
450	6.4	34	108	4.1	35	112	3.1	37	117	2.1	37	117	0	37	117	0	55	175	0	43	137	45	144
440	6.5	34	109	4.1	36	114	3.1	37	119	2.1	37	119	0	37	119	0	55	178	0	43	139	45	147
430	6.6	34	111	4.2	36	116	3.2	37	121	2.2	37	120	0	37	120	0	55	180	0	43	141	45	149
410	6.7	35	114	4.3	36	119	3.3	37	124	2.3	37	122	0	37	122	0	55	183	0	43	143	45	151
400	6.8	35	116	4.4	36	121	3.4	37	126	2.4	37	124	0	37	124	0	55	186	0	43	146	45	153
390	6.9	35	118	4.5	36	123	3.5	38	129	2.5	37	126	0	37	126	0	55	189	0	43	148	45	156
371	7	35	120	4.6	36	126	3.6	38	131	2.6	37	128	0	37	128	0	55	191	0	43	150	45	158
360	7.1	35	123	4.7	37	128	3.7	38	133	2.7	37	130	0	37	130	0	55	194	0	43	152	45	160
343	7.2	35	125	4.8	37	130	3.8	38	136	2.8	37	131	0	37	131	0	55	197	0	43	154	45	162
332	7.3	35	127	4.9	37	133	3.9	38	138	2.9	37	133	0	37	133	0	55	200	0	43	156	45	165
320	7.4	35	129	5	37	135	4	39	141	3	40	146	2	60	219	4	43	158	45	167	45	167	
309	7.5	36	132	5.1	37	137	4.1	39	143	3.1	40	149	2.1	60	223	4.2	43	160	45	169	45	169	
298	7.6	36	135	5.3	37	140	4.3	39	146	3.3	40	152	2.3	60	228	4.6	43	163	45	171	45	171	
280	7.7	36	138	5.5	38	143	4.5	39	149	3.5	41	155	2.5	61	232	5	43	165	45	174	45	174	
271	7.8	36	140	5.6	38	146	4.6	39	152	3.6	41	158	2.6	61	236	5.2	43	167	45	176	45	176	
259	7.9	37	143	5.8	38	149	4.8	40	155	3.8	41	161	2.8	62	241	5.6	43	169	45	178	45	178	
215	8	38	149	6.5	39	155	5.5	41	161	4.5	42	167	3.5	63	250	7	43	171	45	180	45	180	

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 SU-40 DESIGN VEHICLE.



ROAD AND BRIDGE STANDARDS

TRANSITION CURVES - RURAL  
30 MPH DESIGN SPEED

SPECIFICATION REFERENCE

SHEET 1 OF 1  
803.34

REVISION DATE  
01/13

VIRGINIA DEPARTMENT OF TRANSPORTATION