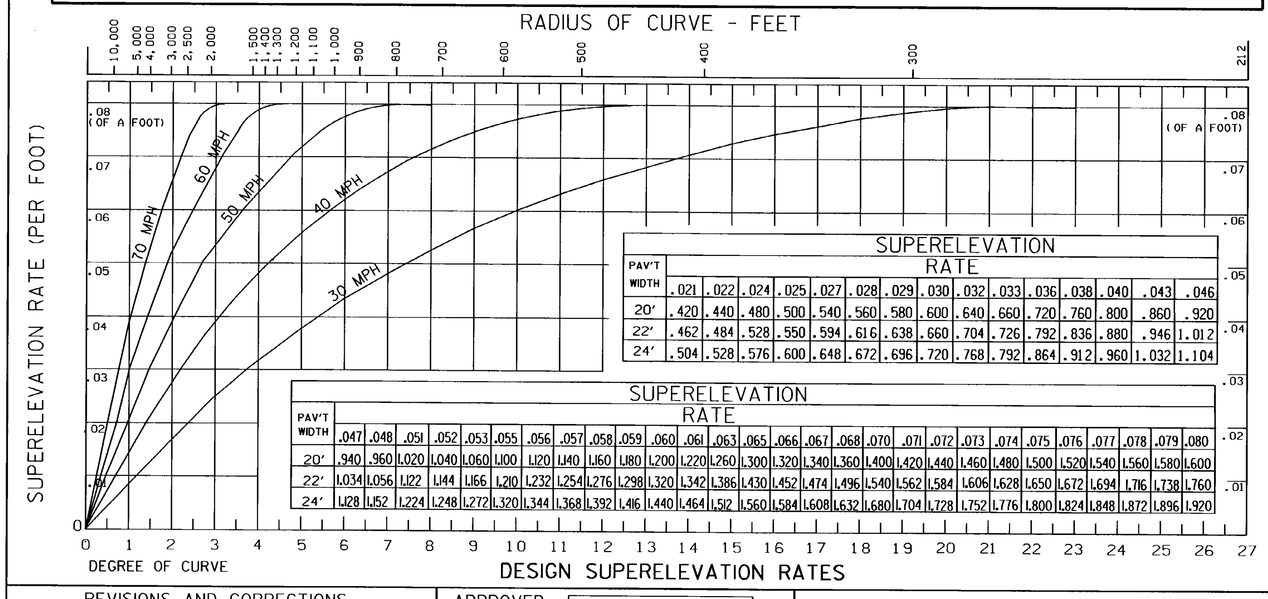
DEGREE OF CURVE	RADIUS	V= 30 M.P.H.			V= 40 M.P.H.			V= 50 M.P.H.			V= 60 M.P.H.			V= 65 M.P.H.			V= 70 M.P.H.		
		e	L - FEET		e	L - FEET		e	L - FEET		e	L - FEET		e	L - FEET		e	L - FEET	
			2 LANE	4 LANE		2 LANE	4 LANE		2 LANE	4 LANE		2 LANE	4 LANE		2 LANE	4 LANE		2 LANE	4 LANE
0° 15′	22918′	NC	0	0	NC	0	0	NC	0	0	NC	0	0	NC	0	0	NC	0	0
0° 30′	11459′	NC	0	0	NC	0	0	NC	0	0	NC	175	175	RC	190	190	NC	200	200
0° 45′	7639′	NC	0	0	NC	0	0	RC	150	150	.022	175	175	.025	190	190	.028	200	200
1° 00′	5730′	NC	0	0	NC	125	125	.021	150	150	.029	175	175	.032	190	190	.038	200	200
1° 30′	3820′	NC	100	100	.021	125	125	.030	150	150	.041	175	175	.046	190	200	.051	200	240
2° 00′	2865′	RC	100	100	.027	125	125	.038	150	150	.051	175	210	.058	190	250	.065	200	290
2° 30′	2292′	.021	100	100	.033	125	125	.046	150	170	.061	175	240	.068	190	300	.075	220	330
3° 00′	1910′	.025	100	100	.038	125	125	.053	150	190	.068	180	270	.075	210	320	.080	230	350
3° 30′	1637′	.028	100	100	.043	125	140	.058	150	210	.074	200	300	.079	220	330	D MAX. =3°-0′		
4° 00′	1432′	.031	100	100	.047	125	150	.063	150	230	.078	210	310	D MAX. =3° 45′					
5° 00′	1146′	.038	100	100	.055	125	170	.071	170	260	D MAX. =4° 45′								
6° 00′	955′	.043	100	120	.062	130	190	.077	180	280									
7° 00′	819′	.048	100	130	.067	140	210	.080	190	280									
8° 00′	716′	.053	100	140	.071	150	220	D MAX. =7° 30′											
9° 00′	637′	.056	100	150	.075	160	240												
10° 00′	573′	.060	110	160	.078	160	240												
11° 00′	521′	.063	110	170	.079	170	250												
12° 00′	477′	.065	120	180	.080	170	250												
13° 00′	441′	.068	120	180	D MAX. =12° 15′														
14° 00′	409′	.070	130	190															
16° 00′	358′	.074	130	200															
18° 00′	318′	.077	140	210															
20° 00′	286′	.079	140	210															
22° 00′	260′	.080	140	220															
		.080	140	220															
		D MAX. =22° 45′																	

$e_{max.}=0.08$

V - ASSUMED DESIGN SPEED
E - RATE OF SUPERELEVATION
L - MINIMUM LENGTH OF RUNOFF OF SPIRAL CURVE
NC - NORMAL CROWN SECTION
RC - REMOVE ADVERSE CROWN. SUPERELEVATE AT NORMAL CROWN SLOPE
SPIRALS DESIRABLE BUT NOT AS ESSENTIAL ABOVE HEAVY LINE
LENGTH ROUNDED IN MULTIPLES OF 25 OR 50 FEET PERMIT SIMPLER CALCULATIONS
LENGTH OF RUNOFF FOR A 4 LANE HIGHWAY IS BASED ON A ROADWAY WITH 16 FEET OR LESS MEDIAN

BANKING FOR CURVES NOT LISTED IN TABLES MAY BE DETERMINED FROM GRAPH.

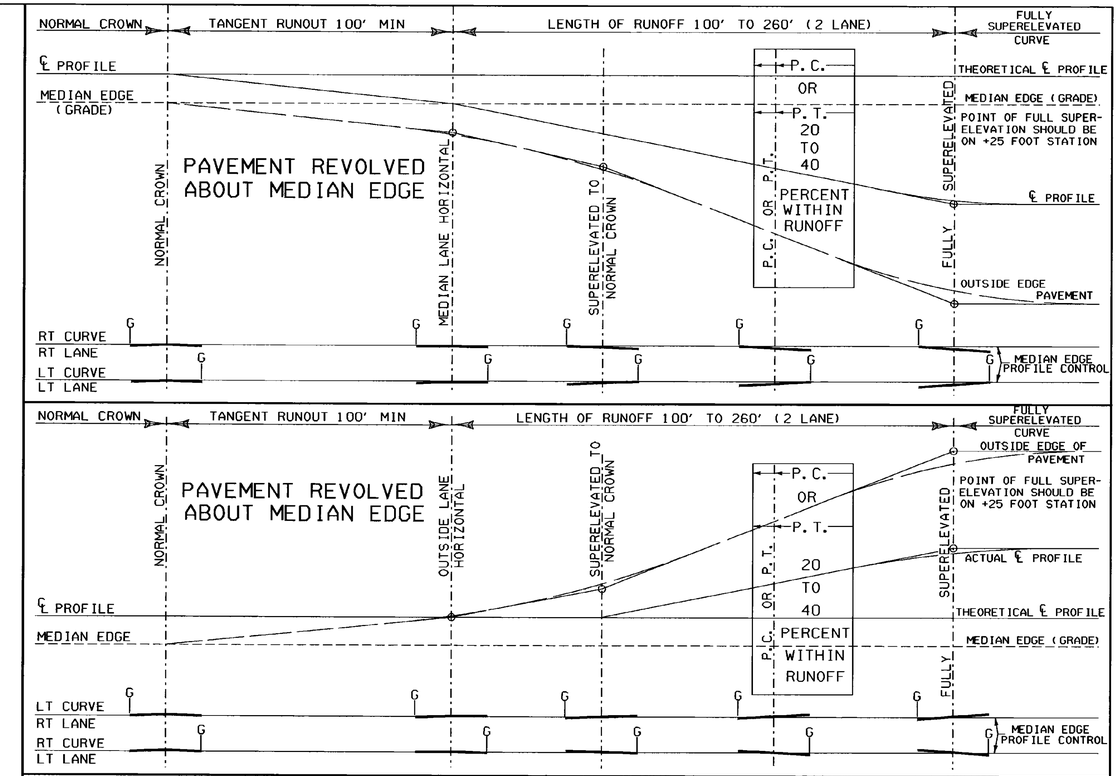
DESIGN VALUES FOR RATE OF SUPERELEVATION AND MINIMUM LENGTH OF RUNOFF



PAV'T WIDTH	SUPERELEVATION RATE														
	.021	.022	.024	.025	.027	.028	.029	.030	.032	.033	.036	.038	.040	.043	.046
20′	.420	.440	.480	.500	.540	.560	.580	.600	.640	.660	.720	.760	.800	.860	.920
22′	.462	.484	.528	.550	.594	.616	.638	.660	.704	.726	.792	.836	.880	.946	1.012
24′	.504	.528	.576	.600	.648	.672	.696	.720	.768	.792	.864	.912	.960	1.032	1.104

PAV'T WIDTH	SUPERELEVATION RATE																										
	.047	.048	.051	.052	.053	.055	.056	.057	.058	.059	.060	.061	.063	.065	.066	.067	.068	.070	.071	.072	.073	.074	.075	.076	.077	.078	.079	.080
20′	.940	.960	1.020	1.040	1.060	1.100	1.120	1.140	1.160	1.180	1.200	1.220	1.260	1.300	1.320	1.340	1.360	1.400	1.420	1.440	1.460	1.480	1.500	1.520	1.540	1.560	1.580	1.600
22′	1.034	1.056	1.122	1.144	1.166	1.210	1.232	1.254	1.276	1.298	1.320	1.342	1.386	1.430	1.452	1.474	1.496	1.540	1.562	1.584	1.606	1.628	1.650	1.672	1.694	1.716	1.738	1.760
24′	1.128	1.152	1.224	1.248	1.272	1.320	1.344	1.368	1.392	1.416	1.440	1.464	1.512	1.560	1.584	1.608	1.632	1.680	1.704	1.728	1.752	1.776	1.800	1.824	1.848	1.872	1.896	1.920

DESIGN SUPERELEVATION RATES

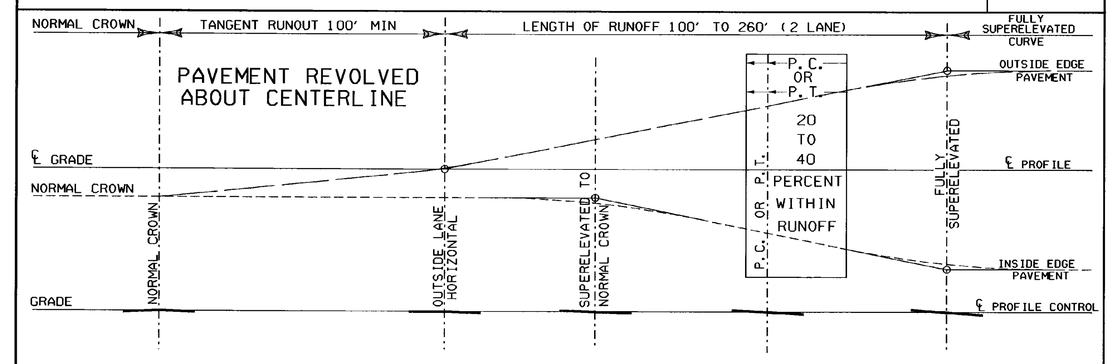


TANGENT RUNOUT: CONSISTS OF MAKING THE LANE OR LANES ON THE OUTSIDE OF THE CURVE, HORIZONTAL WITH THE CENTERLINE, USING 100′ MIN. WHERE THE NORMAL CROWN IS APPROXIMATELY 1/4″ PER FOOT.

LENGTH OF RUNOFF: FROM 60 TO 80 PERCENT OF THE LENGTH OF RUNOFF PREFERABLY SHOULD BE LOCATED ON THE TANGENT AT CURVES.

CURVES WITH SPIRALS: THE LENGTH OF THE SPIRAL AND THE LENGTH OF RUNOFF ARE THE SAME IN DISTANCE. BREAKS IN PROFILES FOR PAVEMENT EDGES SHOULD BE ROUNDED IN FINAL DESIGN BY INSERTION OF VERTICAL CURVES. THE MINIMUM VERTICAL CURVE LENGTH IN FEET CAN BE USED NUMERICALLY EQUAL TO THE DESIGN SPEED IN M.P.H.

G — DENOTES WHERE GRADE IS CARRIED



REVISIONS AND CORRECTIONS

DEC. 8, 1971 - ORIGINAL APPROVAL DATE
OCT. 25, 1985 - REVISED TO CONFORM TO A.A.S.H.T.O. POLICY OF GEOMETRIC DESIGN, 1984.
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

Gordon H. MacArthur P.E.
DIRECTOR OF ENGINEERING

John M. Murphy P.E.
DESIGN ENGINEER

BANKING TABLES

VERMONT AGENCY OF TRANSPORTATION

STANDARD B-1