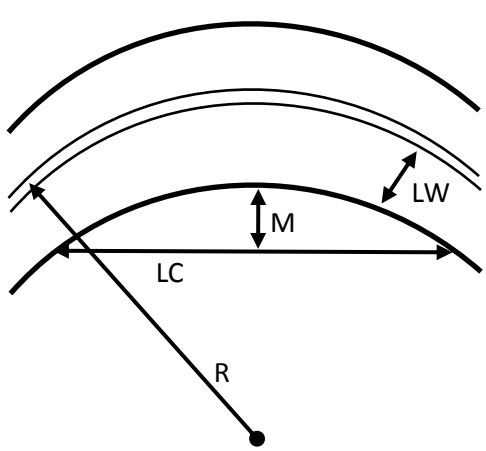
4. Measurement of Superelevation – Determine the superelevation of the curve by measuring the superelevation of the roadway perpendicular to the direction of travel by reading and recording five measurements that are representative of the superelevation of the middle section of the curve in each lane. Circle the median value, which will be used as the superelevation value. This value must be in increments of 0.2% as represented in the AASHTO Minimum Radius Tables. If necessary, round the field measured value up or down to the nearest 0.2% increment.

5. Radius Determination – Determine the radius of the curve by using the circled middle ordinate value from the Field Investigation Form and the Middle Ordinate Conversion Table. Add the inside lane width to the table value to determine the centerline radius of the curve. Record the value on the Field Investigation Form.

Middle Ordinate Conversion Table

Middle Ordinate, M (in)	Radius (ft) for a Long Chord of 50 ft	Middle Ordinate, M (in)	Radius (ft) for a Long Chord of 50 ft	Middle Ordinate, M (in)	Radius (ft) for a Long Chord of 50 ft	Middle Ordinate, M (in)	Radius (ft) for a Long Chord of 50 ft
0.125	30,000	2.625	1,429	5.25	715	10.25	366
0.250	15,000	2.750	1,364	5.50	682	10.50	358
0.375	10,000	2.875	1,304	5.75	652	10.75	349
0.500	7,500	3.000	1,250	6.00	625	11.00	341
0.625	6,000	3.125	1,200	6.25	600	11.25	334
0.750	5,000	3.250	1,154	6.50	577	11.50	327
0.875	4,286	3.375	1,111	6.75	556	11.75	320
1.000	3,750	3.500	1,072	7.00	536	12.00	313
1.125	3,333	3.625	1,035	7.25	518	12.25	307
1.250	3,000	3.750	1,000	7.50	500	12.50	301
1.375	2,727	3.875	968	7.75	484	12.75	295
1.500	2,500	4.000	938	8.00	469	13.00	289
1.625	2,308	4.125	909	8.25	455	13.25	284
1.750	2,143	4.250	883	8.50	442	13.50	278
1.875	2,000	4.375	857	8.75	429	13.75	273
2.000	1,875	4.500	834	9.00	417	14.00	268
2.125	1,765	4.625	811	9.25	406	14.25	264
2.250	1,667	4.750	790	9.50	395	14.50	259
2.375	1,579	4.875	769	9.75	385	14.75	255
2.500	1,500	5.000	750	10.00	375	15.00	251

Note: Add inside lane width to radius value from table to find centerline radius for a two-lane highway.



To find the radius of a curve with any chord length, the following equation can be used:

$$R = \frac{M^2 + 0.25LC^2}{2M} + LW$$

Where:
R = Radius (feet)
M = Middle Ordinate (feet)
LW = Lane Width (feet)
LC = Long Chord (feet)