



mainroads
WESTERN AUSTRALIA

HORIZONTAL CURVE TABLES

FOR GENERAL ROAD DESIGN

Version 4A



REVISION STATUS RECORD

Version Number	Description of Revision	Date
1	Tables created and published based on: <ul style="list-style-type: none"> – Austroads Guide to the geometric design of major urban roads (2002) and – Austroads Guide to the geometric design of rural roads (2003) 	07-Jul-2005
2	Tables updated based on: <ul style="list-style-type: none"> – Austroads Guide to road design Part 3: Geometric Design (2009) 	09-Dec-2011
2A	Tables for 'Use on turning roads and loop ramps only' (radius 45 m to 250 m) with speed range 70-89 km/h amended.	02-Dec-2015
2B	Revision status record and version number added.	04-Dec-2015
3	Tables updated to adopt a shift 0.3 m consistent with Austroads Figure 1 and 2 updated to conform to Austroads GRD Part 3 General maximum superelevation limited to 6%	12-Oct-2017
3A	Curve Radius 180 corrected.	16-Oct-2017
4	Consistent e_{max} of 6% (Linear Distribution Method) applied across all curve radii with 6% superelevation and less. Horizontal Curve Equation used for all radii with more than 6% superelevation. Combined car/truck side friction factors adopted.	18-July-2018
4A	Advice on superelevation runoff overlap altered in Section 3.5.1	15-Aug-2018

1.0 Introduction

The purpose of these Tables is to provide Road Designers, who are familiar with geometric road design, with curve radius and superelevation information for use under normal road design conditions.

These Tables facilitate the consistent application of superelevation for WA roads. They are not intended to provide an appropriate design solution for every circumstance. The Designer should return to first principles when designing for unusual circumstances or constrained situations.

Each Table contains a series of tabulations for curves of specific radius giving selected design data for various design speeds.

Note that in this version:

1. Radii and superelevation information for all design speeds uses the Linear Distribution Method based on an e_{\max} of 6% for curves with 6% superelevation and less. For radii with more than 6% superelevation values are based on first principles (Horizontal Curve Equation).
2. Side friction factors used in the curve tables have been developed to accommodate both cars and trucks refer to Main Roads supplement to Austroads GRD Part 3 for details.

2.0 Application

The design data in the tables can be used for road design in the following situations:

- All rural roads – one lane each way, two lanes each way and dual carriageways up to 3 lanes each way.
- All freeways and expressways, rural and urban.
- All urban highways and major streets.
- Roads in outer urban areas, which are semi-rural in character.
- Ramps, loops and turning roads at interchanges and at intersections.

The design data in the tables is NOT intended for use in the following situations:

- Standard exceptions to normal design. eg. where an intersection occurs on a horizontal curve.
- Local streets and collector streets in urban subdivisions.
- Unusual design situations, which justify individual determination of appropriate design standards.

In order to simplify the preparation of the tables, unusual extremes such as high-speed design with small radius curves, or low-speed design with large radius curves have not been included. Users of the tables are expected to use engineering discretion and not assume that every combination given in the tables will result in 'good design practice'.

3.0 Design Data for Normal Road Design.

3.1 Curve Radius

In most design situations a small change in curve radius has no significant effect on the finished road. It is therefore convenient to limit the choice of curve radius to rounded values. The table contains curve data up to 3000 metre radius, the larger radius curves being excluded because they generally do not require transitions or superelevation.

3.1.1 Adverse Crossfall

Main Roads does not use the minimum radii with adverse crossfall recommended in Austroads. Refer to Section 7.8 of MRWA Supplement to Austroads Guide to Road Design - Part 3.

3.2 Design Speed

- The design data is tabulated for design speeds from 30 km/h to 130 km/h.
- The tabulation of design data is truncated where a particular speed is too high for use with a particular radius.

3.3 Minimum Length of Curve

This is a *guide only* to the minimum length of a circular curve including plan transitions to be used in the design and is based on the formulae:

$$L = \frac{V^2}{36}$$

Where V = design speed in km/h
 L = minimum length of circular curve

3.4 Superelevation

Main Roads general maximum superelevation is limited to 6%. For turning roads and loop ramps an absolute maximum of 10% is permitted.

The side friction factor (f_{\max}) values used in the Tables are those listed in the Desirable Maximum column as recommended in Austroads Guide to Road Design Part 3: Geometric Design (2016) Table 7.5

The superelevation value is based on the formulae:

For radii with up to 6% superelevation

$$e = \frac{V^2 e_{\max}}{127R(e_{\max} + f_{\max})}$$

For radii with more than 6% superelevation (Horizontal Curve Equation)

$$e = \frac{V^2}{127R} - f$$

Where V = design speed in km/h
 R = radius in metres
 e = superelevation in m/m
 e_{\max} = 6% superelevation in m/m
 f_{\max} = maximum desirable side friction factor

The horizontal curve tables assume an initial crowned cross section of 3.0% to calculate the curve data.

Adverse crossfall can be used when the tables give superelevation as -3.0% (in **bold** print).

It is assumed that the design is on level ground and no correction for grade has been applied. For grade corrections refer to Austroads Guide to Road Design Part 3: Geometric Design (2016) Section 7.6.1.

3.5 Superelevation Development Length

The superelevation development length is calculated using the rate of rotation and relative grade criteria as recommended in Austroads Guide to Road Design Part 3: Geometric Design (2016), Sections 7.7.7 & 7.7.8

The tabulated value for superelevation development length is the larger value as calculated by applying the 'rate of rotation' and 'relative grade' methods.

Main Roads applies the full development length to the outside and inside edges of the carriageway. Austroads use the rate of rotation/relative grade separately, to develop the inside edge superelevation.

Superelevation development lengths in the tables are based on the following lane widths:

- 1 lane = 3.5 m
- 2 lanes = 7.0 m
- 3 lanes = 10.5 m

For appearance purposes apply the rounding curve lengths in Austroads Guide to Road Design Part 3: Geometric Design (2016), Table 7.9.

3.5.1 Horizontal Curves - without plan transitions

On horizontal curves **without** plan transitions the superelevation development length plus half each of the rounding curves length is referred to by Main Roads as the 'superelevation transition length'. Refer Figure 1 below. The proportion of superelevation runoff located prior to the curve should be in accordance with Austroads GRD Part 3, Table 7.2.

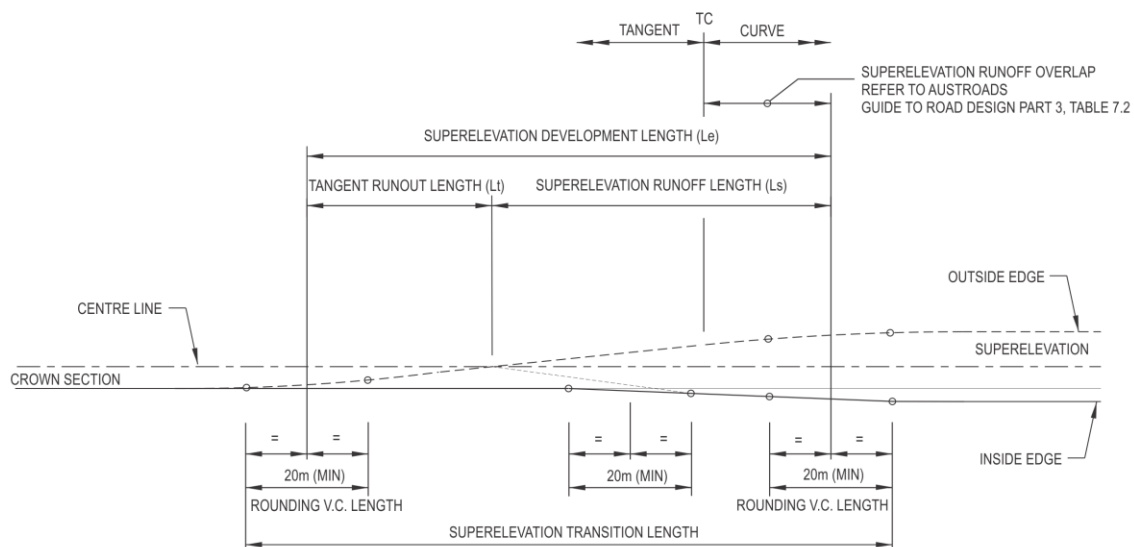


Figure 1: Typical Method Application of Superelevation Development Length in Profile For a Horizontal Curve without Plan Transitions

3.5.2 Horizontal Curves - with plan transitions

On horizontal curves **with** plan transitions the Superelevation Development Length (L_e) is applied about the tangent to spiral point (TS) using the Tangent Runout Length (L_t) and the Superelevation Runoff Length (L_s) refer Figure 2.

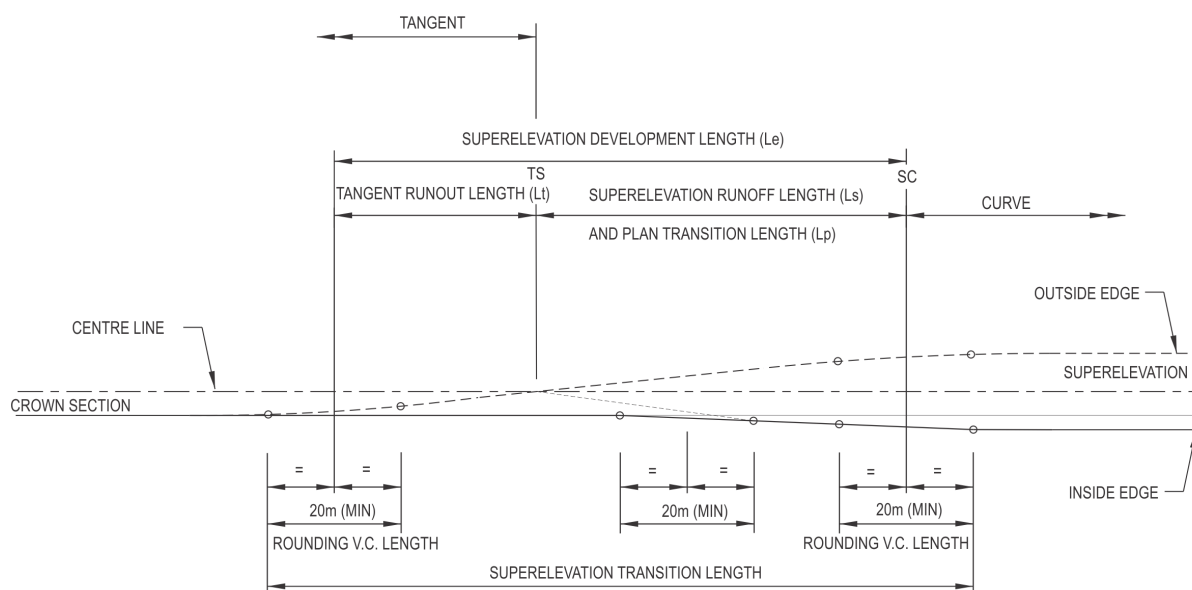


Figure 2: Typical Method Application of Superelevation Development Length in Profile For a Horizontal Curve with Plan Transitions

The tabulated value of L_e is rounded to the nearest 1 metre.

3.6 Superelevation Runoff Length (TS – SC)

This is the proportion of L_e required to develop superelevation on the outside edge, from a level cross section to the full superelevation at the start of the circular curve.

The calculated value for the superelevation runoff length between TS and SC is normally rounded to the nearest 1 metre.

3.7 Tangent Runout Length (L_t)

This is the proportion of the superelevation development length required to develop superelevation on the outside edge, from the crown section on the tangent to a level cross section on the outside edge.

3.8 Shift (P)

The shift is calculated using the formulae:

$$P = \frac{L_p^2}{24R}$$

Where P = shift

L_p = plan transition length/superelevation runoff length in metres

R = radius of central curve in metres

If the shift is greater than or equal to 0.3 m Main Roads applies a plan transition equal in length to the superelevation runoff length. Refer to Figure 3.

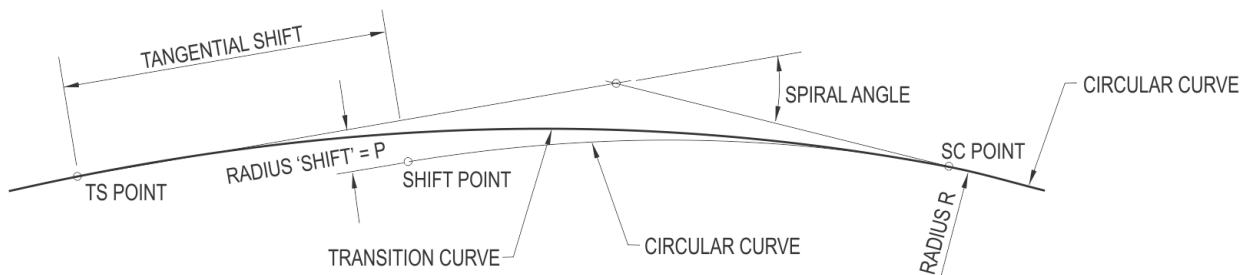


Figure 3: Transition Curve Terminology – Showing ‘Shift’

3.9 Plan Transition Length

AASHTO – A Policy on the Geometric Design of Highways and Streets (2011) recommends on page 3-73 “For the most part the calculated values for length of spiral and length of runoff do not differ materially.” Also “The length of runoff is applicable to all superelevated curves, and it is recommended that this value should be used for minimum lengths of spiral. In this manner, the length of spiral should be set equal to the length of superelevation runoff.” Accordingly, where a plan transition is required, the tabulated plan transition length in the horizontal curve tables is the same as the superelevation runoff length.

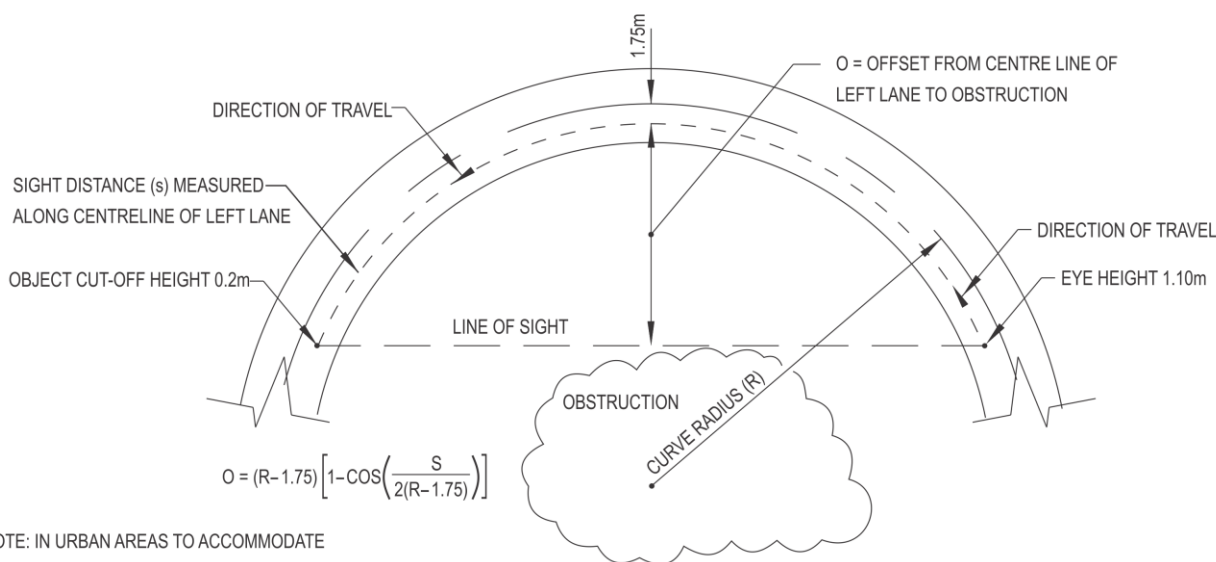
3.10 Stopping Sight Distance

The stopping sight distance (SSD) is for cars on level grades with a reaction time of 2.5 seconds and a coefficient of deceleration of 0.36. Refer from Austroads Guide to Road Design Part 3: Geometric Design (2016), Table 5.5.

3.11 Offset to the Line of Sight

The SSD is used to calculate the offset to the line of sight and is generally measured using an eye height of 1.1 m and an object height of 0.2 m. In some locations such as at floodways, (where washouts may occur) and at intersections (where road markings need to be visible), the object height should be zero metres.

The tabulated values detail the lateral clearance for curves to ensure adequate visibility in the horizontal plane to enable a vehicle to stop within the stopping sight distance requirements. The tabulated values are the offsets required from the vehicle path (driver's eye) of a **two-way** (one lane each way) road with eye and object both on the curve at a distance of 1.75 m (half 3.5 m lane) from the centre line. Refer to Figures 4 & 5. For roads of more than two lanes the designer should calculate the required offset from first principles.



$$O = (R - 1.75) \left[1 - \cos \left(\frac{s}{2(R - 1.75)} \right) \right]$$

NOTE: IN URBAN AREAS TO ACCOMMODATE BARRIERS, LIMIT THE SHOULDER WIDENING TO 4.0m TO ALLOW MANOEUVRING OF VEHICLES

Note: Units expressed in radians

Figure 4: Lateral Stopping Sight Distance – In Horizontal Curves

Where sight distance cannot be achieved on horizontal curves then refer to Austroads Guide to Road Design Part 3: Geometric Design (2016), Section 5.5.1, 5.5.2, Appendix G and Main Roads supplement to this guidance.

3.12 Overtaking Barrier Line Marking

Main Roads has developed an excel spreadsheet that reads in a MX visibility report then calculates and displays where overtaking barrier line marking should be provided. The start and end chainages are calculated based on the process defined in Australian Standards AS1742.2

An example of the drawing presentation based on the report output can be found in Drawing [200331-0033](#). For more detailed information refer to the [Guideline on Barrier Linemarking](#).

NOTE: Barrier line marking should be verified on site in accordance with AS1742.2

4.0 Conditions and Assumptions Used For Table Calculations.

- Superelevation values or curve radius may need adjustments for grades - refer to 'Austroads – Guide to Road Design Part 3: Geometric Design (2016)'. Table 5.5 and Section 7.6.1.
- 'Stopping Sight Distance' and 'Offset to Line of Sight' are for cars on level grades.
- Superelevation development lengths are calculated from crowned cross section of 3% to desired superelevation.
- Superelevation runoff lengths and plan transition lengths are equal.
- Offset line of sight is assumed to be the centre of the travelled lane (1.75 m offset from centre line) and the design radius line (R) is the centre of the two-way road.
- Where superelevation is shown in **bold**, a normal 3% crown cross section applies. (i.e., adverse crossfall can be used).
- Research completed for Main Roads by ARRB in June 2010, confirmed that superelevation of 10% does not exceed the static rollover threshold for vehicles up to and including a loaded low loader with a maximum height of 6.5 m and width of 8.5 m.
- Where the adopted design speed for a freeway or controlled access highway is 100km/h or greater and it is expected that it will be operating at more than 85% of the theoretical design capacity for more than three days per week during peak periods during the design life of the asset, a minimum horizontal curve radius of 750m shall be adopted for design. This criteria avoids horizontal geometry adversely impacting the operational performance of a freeway or controlled access highway as discussed in Austroads Guide to Smart Motorways 2016.

RADIUS

45

Design Speed (km/h)		30	40
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44
Superelevation (%)		3.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	25	35
	2 Lane (7.0 m)	35	48
	3 Lane (10.5 m)	40	56
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12
	2 Lane (7.0 m)	16	16
	3 Lane (10.5 m)	19	19
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	14	23
	2 Lane (7.0 m)	19	32
	3 Lane (10.5 m)	22	37
Shift (m)	1 Lane (3.5 m)	0.172	0.504
	2 Lane (7.0 m)	0.329	0.966
	3 Lane (10.5 m)	0.433	1.272
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)		23
	2 Lane (7.0 m)	19	32
	3 Lane (10.5 m)	22	37
Stopping Sight Distance (m) (SSD)		31	45
Offset to Line of Sight (m) 1 Lane	1.0 SSD	2.7	5.8

RADIUS

50

Design Speed (km/h)		30	40
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44
Superelevation (%)		3.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	33
	2 Lane (7.0 m)	32	46
	3 Lane (10.5 m)	37	53
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12
	2 Lane (7.0 m)	16	16
	3 Lane (10.5 m)	19	19
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	21
	2 Lane (7.0 m)	16	30
	3 Lane (10.5 m)	19	34
Shift (m)	1 Lane (3.5 m)	0.113	0.381
	2 Lane (7.0 m)	0.217	0.731
	3 Lane (10.5 m)	0.286	0.962
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)		21
	2 Lane (7.0 m)		30
	3 Lane (10.5 m)		34
Stopping Sight Distance (m) (SSD)		31	45
Offset to Line of Sight (m) 1 Lane	1.0 SSD	2.4	5.2

RADIUS

55

Design Speed (km/h)		30	40
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44
Superelevation (%)		3.0%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	31
	2 Lane (7.0 m)	32	43
	3 Lane (10.5 m)	37	49
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12
	2 Lane (7.0 m)	16	16
	3 Lane (10.5 m)	19	19
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	19
	2 Lane (7.0 m)	16	27
	3 Lane (10.5 m)	19	31
Shift (m)	1 Lane (3.5 m)	0.103	0.286
	2 Lane (7.0 m)	0.198	0.549
	3 Lane (10.5 m)	0.260	0.723
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)		27
	2 Lane (7.0 m)		31
	3 Lane (10.5 m)		
Stopping Sight Distance (m) (SSD)		31	45
Offset to Line of Sight (m) 1 Lane	1.0 SSD	2.2	4.7

RADIUS

60

Design Speed (km/h)		30	40	50
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69
Superelevation (%)		3.0%	4.5%	9.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	29	56
	2 Lane (7.0 m)	32	40	73
	3 Lane (10.5 m)	37	46	84
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14
	2 Lane (7.0 m)	16	16	18
	3 Lane (10.5 m)	19	19	21
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	18	42
	2 Lane (7.0 m)	16	24	55
	3 Lane (10.5 m)	19	28	63
Shift (m)	1 Lane (3.5 m)	0.095	0.213	1.225
	2 Lane (7.0 m)	0.181	0.408	2.084
	3 Lane (10.5 m)	0.238	0.536	2.756
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)			42
	2 Lane (7.0 m)		24	55
	3 Lane (10.5 m)		28	63
Stopping Sight Distance (m) (SSD)		31	45	62
Offset to Line of Sight (m) 1 Lane	1.0 SSD	2.0	4.3	8.1

RADIUS

65

Design Speed (km/h)		30	40	50
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69
Superelevation (%)		3.0%	4.0%	6.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	27	44
	2 Lane (7.0 m)	32	38	58
	3 Lane (10.5 m)	37	43	67
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14
	2 Lane (7.0 m)	16	16	18
	3 Lane (10.5 m)	19	19	21
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	16	30
	2 Lane (7.0 m)	16	22	40
	3 Lane (10.5 m)	19	25	46
Shift (m)	1 Lane (3.5 m)	0.087	0.155	0.590
	2 Lane (7.0 m)	0.167	0.297	1.003
	3 Lane (10.5 m)	0.220	0.391	1.327
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)			30
	2 Lane (7.0 m)			40
	3 Lane (10.5 m)		25	46
Stopping Sight Distance (m) (SSD)		31	45	62
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.9	4.0	7.5

RADIUS

70

Design Speed (km/h)		30	40	50
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69
Superelevation (%)		3.0%	4.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	27	42
	2 Lane (7.0 m)	32	38	55
	3 Lane (10.5 m)	37	43	63
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14
	2 Lane (7.0 m)	16	16	18
	3 Lane (10.5 m)	19	19	21
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	16	28
	2 Lane (7.0 m)	16	22	37
	3 Lane (10.5 m)	19	25	42
Shift (m)	1 Lane (3.5 m)	0.081	0.144	0.467
	2 Lane (7.0 m)	0.155	0.276	0.794
	3 Lane (10.5 m)	0.204	0.363	1.050
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)			28
	2 Lane (7.0 m)			37
	3 Lane (10.5 m)		25	42
Stopping Sight Distance (m) (SSD)		31	45	62
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.7	3.7	6.9

RADIUS

75

Design Speed (km/h)		30	40	50
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69
Superelevation (%)		3.0%	3.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	25	40
	2 Lane (7.0 m)	32	35	52
	3 Lane (10.5 m)	37	40	60
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14
	2 Lane (7.0 m)	16	16	18
	3 Lane (10.5 m)	19	19	21
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	14	26
	2 Lane (7.0 m)	16	19	33
	3 Lane (10.5 m)	19	22	39
Shift (m)	1 Lane (3.5 m)	0.076	0.103	0.366
	2 Lane (7.0 m)	0.145	0.197	0.623
	3 Lane (10.5 m)	0.191	0.260	0.823
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)			26
	2 Lane (7.0 m)			33
	3 Lane (10.5 m)			39
Stopping Sight Distance (m) (SSD)		31	45	62
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.6	3.5	6.5

RADIUS

80

Design Speed (km/h)		30	40	50
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69
Superelevation (%)		3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	25	37
	2 Lane (7.0 m)	32	35	49
	3 Lane (10.5 m)	37	40	56
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14
	2 Lane (7.0 m)	16	16	18
	3 Lane (10.5 m)	19	19	21
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	14	23
	2 Lane (7.0 m)	16	19	30
	3 Lane (10.5 m)	19	22	35
Shift (m)	1 Lane (3.5 m)	0.071	0.096	0.284
	2 Lane (7.0 m)	0.136	0.185	0.482
	3 Lane (10.5 m)	0.179	0.243	0.638
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)			30
	2 Lane (7.0 m)			35
	3 Lane (10.5 m)			
Stopping Sight Distance (m) (SSD)		31	45	62
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.5	3.3	6.1

RADIUS

85

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		3.0%	3.0%	5.0%	9.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	23	37	73
	2 Lane (7.0 m)	32	32	49	88
	3 Lane (10.5 m)	37	37	56	101
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14	18
	2 Lane (7.0 m)	16	16	18	21
	3 Lane (10.5 m)	19	19	21	24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	12	23	55
	2 Lane (7.0 m)	16	16	30	67
	3 Lane (10.5 m)	19	19	35	77
Shift (m)	1 Lane (3.5 m)	0.067	0.067	0.267	1.505
	2 Lane (7.0 m)	0.128	0.128	0.454	2.168
	3 Lane (10.5 m)	0.168	0.168	0.600	2.886
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)				55
	2 Lane (7.0 m)			30	67
	3 Lane (10.5 m)			35	77
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.4	3.1	5.7	9.7

RADIUS

90

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		3.0%	3.0%	4.5%	7.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)	23	23	35	61
	2 Lane (7.0 m)	32	32	46	74
	3 Lane (10.5 m)	37	37	53	85
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)	12	12	14	18
	2 Lane (7.0 m)	16	16	18	21
	3 Lane (10.5 m)	19	19	21	24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)	12	12	21	44
	2 Lane (7.0 m)	16	16	27	53
	3 Lane (10.5 m)	19	19	32	61
Shift (m)	1 Lane (3.5 m)	0.063	0.063	0.204	0.886
	2 Lane (7.0 m)	0.121	0.121	0.347	1.276
	3 Lane (10.5 m)	0.159	0.159	0.459	1.699
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)				44
	2 Lane (7.0 m)			27	53
	3 Lane (10.5 m)			32	61
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.3	2.9	5.4	9.1

RADIUS

95

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		-3.0%	3.0%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	35 46 53	53 63 73
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	21 27 32	35 42 48
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.060 0.114 0.151	0.193 0.329 0.435	0.537 0.774 1.030
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.3	2.7	5.1	8.7

RADIUS

100

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		-3.0%	3.0%	4.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	33 43 49	53 63 73
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	19 24 28	35 42 48
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.057 0.109 0.143	0.145 0.247 0.327	0.510 0.735 0.979
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.2	2.6	4.9	8.2

RADIUS

110

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		-3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	33 43 49	50 60 69
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	19 24 28	32 39 44
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.052 0.099 0.130	0.132 0.225 0.297	0.390 0.561 0.748
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				32 39 44
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.1	2.4	4.4	7.5

RADIUS

120

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		-3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	30 40 46	47 56 65
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	16 21 25	29 35 40
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.047 0.091 0.119	0.093 0.158 0.208	0.295 0.425 0.566
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 40
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	1.0	2.2	4.0	6.9

RADIUS

130

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		-3.0%	3.0%	3.5%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	30 40 46	44 53 61
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	16 21 25	26 32 36
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.044 0.084 0.110	0.086 0.145 0.192	0.221 0.318 0.423
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				32 36
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.9	2.0	3.7	6.3

RADIUS

140

Design Speed (km/h)		30	40	50	60
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100
Superelevation (%)		-3.0%	3.0%	3.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	28 37 42	44 53 61
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	26 32 36
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.041 0.078 0.102	0.058 0.099 0.131	0.205 0.295 0.393
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				36
Stopping Sight Distance (m) (SSD)		31	45	62	81
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.9	1.8	3.5	5.9

RADIUS

150

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	3.0%	3.0%	4.0%	7.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	28 37 42	41 49 57	64 78 91
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24	19 23 27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	23 28 32	45 54 64
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.038 0.072 0.095	0.054 0.093 0.123	0.151 0.218 0.290	0.551 0.823 1.135
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					45 54 64
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.8	1.7	3.2	5.5	8.7

RADIUS

160

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	3.0%	3.0%	4.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		23 32 37	28 37 42	41 49 57	57 70 82
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	18 21 24	19 23 27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		12 16 19	14 18 21	23 28 32	38 47 55
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)		0.035 0.068 0.089	0.051 0.087 0.115	0.142 0.204 0.272	0.380 0.567 0.782
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.7	1.6	3.0	5.2	8.2

RADIUS

170

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	-3.0%	3.0%	3.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	38 46 53	54 66 78
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	20 25 28	35 43 50
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.048 0.082 0.108	0.102 0.147 0.196	0.300 0.449 0.618
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					35 43 50
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.7	1.5	2.9	4.9	7.7

RADIUS

180

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	-3.0%	3.0%	3.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	38 46 53	54 66 78
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	20 25 28	35 43 50
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.045 0.077 0.102	0.096 0.139 0.185	0.284 0.424 0.584
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					43 50
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.7	1.4	2.7	4.6	7.3

RADIUS

190

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)			28	35	51
	2 Lane (7.0 m)			37	42	62
	3 Lane (10.5 m)			42	48	73
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)			14	18	19
	2 Lane (7.0 m)			18	21	23
	3 Lane (10.5 m)			21	24	27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)			14	18	32
	2 Lane (7.0 m)			18	21	39
	3 Lane (10.5 m)			21	24	46
Shift (m)	1 Lane (3.5 m)			0.043	0.067	0.222
	2 Lane (7.0 m)			0.073	0.097	0.332
	3 Lane (10.5 m)			0.097	0.129	0.457
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)					39
	2 Lane (7.0 m)					46
	3 Lane (10.5 m)					
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.6	1.4	2.6	4.3	6.9

RADIUS

200

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)			28	35	51
	2 Lane (7.0 m)			37	42	62
	3 Lane (10.5 m)			42	48	73
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)			14	18	19
	2 Lane (7.0 m)			18	21	23
	3 Lane (10.5 m)			21	24	27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)			14	18	32
	2 Lane (7.0 m)			18	21	39
	3 Lane (10.5 m)			21	24	46
Shift (m)	1 Lane (3.5 m)			0.041	0.064	0.211
	2 Lane (7.0 m)			0.069	0.092	0.315
	3 Lane (10.5 m)			0.092	0.122	0.434
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)					39
	2 Lane (7.0 m)					46
	3 Lane (10.5 m)					
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.6	1.3	2.4	4.1	6.5

RADIUS

210

Design Speed (km/h)		30	40	50	60	70
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	35 42 48	48 58 68
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	29 35 41
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.039 0.066 0.088	0.061 0.088 0.116	0.163 0.243 0.335
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					41
Stopping Sight Distance (m) (SSD)		31	45	62	81	102
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.6	1.2	2.3	3.9	6.2

RADIUS

220

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	4.5%	7.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	35 42 48	48 58 68	89 89 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	29 35 41	62 62 74
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.037 0.063 0.084	0.058 0.084 0.111	0.155 0.232 0.320	0.733 0.733 1.023
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					41	62 62 74
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.5	1.2	2.2	3.8	6.0	9.0

RADIUS

230

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	35 42 48	48 58 68	80 80 95
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	29 35 41	53 53 63
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.036 0.060 0.080	0.055 0.080 0.106	0.149 0.222 0.306	0.515 0.515 0.719
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					41	53 53 63
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.5	1.1	2.1	3.6	5.7	8.6

RADIUS

240

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	4.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	35 42 48	45 54 64	80 80 95
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	25 31 37	53 53 63
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.034 0.058 0.077	0.053 0.077 0.102	0.112 0.168 0.232	0.494 0.494 0.689
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53 53 63
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.5	1.1	2.0	3.4	5.5	8.2

RADIUS

250

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	35 42 48	45 54 64	76 76 89
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	25 31 37	49 49 58
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.033 0.056 0.074	0.051 0.074 0.098	0.108 0.161 0.222	0.398 0.398 0.556
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						49 49 58
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.5	1.0	1.9	3.3	5.2	7.9

RADIUS

260

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			28 37 42	35 42 48	45 54 64	76 76 89
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			14 18 21	18 21 24	25 31 37	49 49 58
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)			0.031 0.053 0.071	0.049 0.071 0.094	0.104 0.155 0.214	0.383 0.383 0.534
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						49 49 58
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.5	1.0	1.9	3.2	5.0	7.6

RADIUS

270

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	41 51 59	76 76 89
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	22 27 32	49 49 58
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.047 0.068 0.091	0.077 0.114 0.158	0.369 0.369 0.515
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						49 49 58
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	1.0	1.8	3.1	4.9	7.3

RADIUS

280

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	41 51 59	71 71 84
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	22 27 32	44 44 53
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.046 0.066 0.087	0.074 0.110 0.152	0.294 0.294 0.410
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	0.9	1.7	2.9	4.7	7.1

RADIUS

290

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	41 51 59	71 71 84
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	22 27 32	44 44 53
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.044 0.063 0.084	0.071 0.106 0.147	0.284 0.284 0.396
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	0.9	1.7	2.8	4.5	6.8

RADIUS

300

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	41 51 59	71 71 84
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	22 27 32	44 44 53
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.043 0.061 0.082	0.069 0.103 0.142	0.274 0.274 0.383
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	0.9	1.6	2.7	4.4	6.6

RADIUS

310

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	67 67 79
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	40 40 47
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.041 0.059 0.079	0.049 0.073 0.101	0.215 0.215 0.300
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						47
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	0.8	1.6	2.7	4.2	6.4

RADIUS

320

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	67 67 79
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	40 40 47
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.040 0.057 0.076	0.047 0.071 0.098	0.208 0.208 0.291
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	0.8	1.5	2.6	4.1	6.2

RADIUS

330

Design Speed (km/h)		30	40	50	60	70	80
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	67 67 79
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	40 40 47
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.039 0.056 0.074	0.046 0.069 0.095	0.202 0.202 0.282
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.4	0.8	1.5	2.5	4.0	6.0

RADIUS

340

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	67 67 79	90 90 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	40 40 47	60 60 66
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.038 0.054 0.072	0.045 0.067 0.092	0.196 0.196 0.274	0.441 0.441 0.539
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60 60 66
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.8	1.4	2.4	3.9	5.8	8.4

RADIUS

350

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	62 62 74	90 90 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	36 36 42	60 60 66
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.036 0.053 0.070	0.043 0.065 0.089	0.150 0.150 0.210	0.429 0.429 0.524
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60 60 66
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.7	1.4	2.4	3.7	5.6	8.2

RADIUS

360

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	62 62 74	90 90 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	36 36 42	60 60 66
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.035 0.051 0.068	0.042 0.063 0.087	0.146 0.146 0.204	0.417 0.417 0.509
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60 60 66
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.7	1.3	2.3	3.6	5.5	7.9

RADIUS

370

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	62 62 74	85 85 94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	36 36 42	55 55 61
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.034 0.050 0.066	0.041 0.061 0.084	0.142 0.142 0.199	0.341 0.341 0.416
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							55 55 61
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.7	1.3	2.2	3.5	5.3	7.7

RADIUS

380

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	62 62 74	85 85 94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	36 36 42	55 55 61
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.034 0.048 0.064	0.040 0.060 0.082	0.139 0.139 0.193	0.332 0.332 0.405
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							55 55 61
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.7	1.3	2.2	3.4	5.2	7.5

RADIUS

390

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	62 62 74	85 85 94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	36 36 42	55 55 61
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.033 0.047 0.063	0.039 0.058 0.080	0.135 0.135 0.188	0.323 0.323 0.395
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							55 55 61
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.7	1.2	2.1	3.4	5.1	7.3

RADIUS

400

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	58 58 68	85 85 94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	31 31 37	55 55 61
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.032 0.046 0.061	0.038 0.057 0.078	0.101 0.101 0.141	0.315 0.315 0.385
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							55 55 61
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.2	2.1	3.3	4.9	7.1

RADIUS

410

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	58 58 68	80 80 88
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	31 31 37	50 50 55
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.031 0.045 0.060	0.037 0.055 0.076	0.098 0.098 0.137	0.254 0.254 0.310
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							55
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.2	2.0	3.2	4.8	7.0

RADIUS

420

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	58 58 68	80 80 88
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	31 31 37	50 50 55
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.030 0.044 0.058	0.036 0.054 0.074	0.096 0.096 0.134	0.248 0.248 0.303
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							55
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.2	2.0	3.1	4.7	6.8

RADIUS

430

Design Speed (km/h)		30	40	50	60	70	80	90
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	58 58 68	80 80 88
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	31 31 37	50 50 55
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.030 0.043 0.057	0.035 0.053 0.073	0.094 0.094 0.131	0.242 0.242 0.296
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.1	1.9	3.0	4.6	6.6

RADIUS

440

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	58 58 68	80 80 88	100 100 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	31 31 37	50 50 55	67 67 70
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.029 0.042 0.056	0.035 0.052 0.071	0.092 0.092 0.128	0.237 0.237 0.289	0.421 0.421 0.464
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.1	1.9	3.0	4.5	6.5	9.1

RADIUS

450

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	58 58 68	75 75 83	100 100 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	31 31 37	45 45 50	67 67 70
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.028 0.041 0.054	0.034 0.050 0.069	0.090 0.090 0.125	0.188 0.188 0.229	0.412 0.412 0.454
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.1	1.8	2.9	4.4	6.4	8.9

RADIUS

460

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	53 53 63	75 75 83	100 100 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	45 45 50	67 67 70
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.028 0.040 0.053	0.033 0.049 0.068	0.064 0.064 0.090	0.183 0.183 0.224	0.403 0.403 0.444
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.6	1.1	1.8	2.8	4.3	6.2	8.7

RADIUS

470

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	53 53 63	75 75 83	100 100 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	45 45 50	67 67 70
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.027 0.039 0.052	0.032 0.048 0.067	0.063 0.063 0.088	0.180 0.180 0.219	0.394 0.394 0.434
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.3	0.5	1.0	1.8	2.8	4.2	6.1	8.5

RADIUS

480

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	53 53 63	75 75 83	94 94 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	45 45 50	61 61 64
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.027 0.038 0.051	0.032 0.047 0.065	0.062 0.062 0.086	0.176 0.176 0.215	0.324 0.324 0.357
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								61 61 64
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	1.0	1.7	2.7	4.1	6.0	8.3

RADIUS

490

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	53 53 63	75 75 83	94 94 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	45 45 50	61 61 64
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.026 0.038 0.050	0.031 0.046 0.064	0.060 0.060 0.084	0.172 0.172 0.210	0.318 0.318 0.350
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								61 61 64
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	1.0	1.7	2.7	4.0	5.8	8.2

RADIUS

500

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				35 42 48	38 47 55	53 53 63	75 75 83	94 94 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				18 21 24	19 23 27	27 27 32	45 45 50	61 61 64
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)				0.026 0.037 0.049	0.030 0.045 0.063	0.059 0.059 0.083	0.169 0.169 0.206	0.311 0.311 0.343
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								61 61 64
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	1.0	1.6	2.6	3.9	5.7	8.0

RADIUS

520

Design Speed (km/h)		30	40	50	60	70	80	90	100
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	70 70 77	94 94 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	40 40 44	61 61 64
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.029 0.044 0.060	0.057 0.057 0.080	0.128 0.128 0.157	0.299 0.299 0.330
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								64
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	0.9	1.6	2.5	3.8	5.5	7.7

RADIUS

540

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	70 70 77	89 89 93	110 110 111
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	40 40 44	56 56 58	73 73 74
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.028 0.042 0.058	0.055 0.055 0.077	0.123 0.123 0.151	0.238 0.238 0.263	0.415 0.415 0.424
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	0.9	1.5	2.4	3.7	5.3	7.4	10.1

RADIUS

550

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	70 70 77	89 89 93	110 110 111
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	40 40 44	56 56 58	73 73 74
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.028 0.041 0.057	0.054 0.054 0.075	0.121 0.121 0.148	0.234 0.234 0.258	0.407 0.407 0.416
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	0.9	1.5	2.4	3.6	5.2	7.3	9.9

RADIUS

560

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	70 70 77	89 89 93	110 110 111
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	40 40 44	56 56 58	73 73 74
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.027 0.041 0.056	0.053 0.053 0.074	0.119 0.119 0.145	0.230 0.230 0.253	0.400 0.400 0.409
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.5	0.9	1.5	2.3	3.5	5.1	7.1	9.7

RADIUS

580

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	5.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	65 65 72	89 89 93	104 104 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	35 35 39	56 56 58	67 67 68
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.026 0.039 0.054	0.051 0.051 0.071	0.088 0.088 0.108	0.222 0.222 0.244	0.325 0.325 0.332
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									67 67 68
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.8	1.4	2.3	3.4	4.9	6.9	9.4

RADIUS

600

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	65 65 72	83 83 88	104 104 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	35 35 39	50 50 53	67 67 68
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.025 0.038 0.052	0.049 0.049 0.069	0.085 0.085 0.104	0.174 0.174 0.191	0.314 0.314 0.321
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									67 67 68
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.8	1.4	2.2	3.3	4.8	6.7	9.1

RADIUS

620

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	65 65 72	83 83 88	104 104 105
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	35 35 39	50 50 53	67 67 68
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.024 0.037 0.050	0.048 0.048 0.067	0.082 0.082 0.101	0.168 0.168 0.185	0.304 0.304 0.310
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									67 67 68
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.8	1.3	2.1	3.2	4.6	6.5	8.8

RADIUS

640

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	65 65 72	83 83 88	98 98 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	35 35 39	50 50 53	61 61 62
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.024 0.035 0.049	0.046 0.046 0.065	0.080 0.080 0.097	0.163 0.163 0.179	0.243 0.243 0.248
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.8	1.3	2.0	3.1	4.5	6.3	8.5

RADIUS

650

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	65 65 72	83 83 88	98 98 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	35 35 39	50 50 53	61 61 62
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.023 0.035 0.048	0.046 0.046 0.064	0.079 0.079 0.096	0.160 0.160 0.177	0.239 0.239 0.245
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.7	1.3	2.0	3.0	4.4	6.2	8.4

RADIUS

660

Design Speed (km/h)		30	40	50	60	70	80	90	100	110
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.0%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	65 65 72	78 78 82	98 98 99
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	35 35 39	44 44 47	61 61 62
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.023 0.034 0.047	0.045 0.045 0.063	0.077 0.077 0.094	0.125 0.125 0.137	0.236 0.236 0.241
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.7	1.2	2.0	3.0	4.3	6.1	8.3

RADIUS

680

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	60 60 66	78 78 82	98 98 99	120 120 120
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37	40 40 40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	44 44 47	61 61 62	80 80 80
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.022 0.033 0.046	0.044 0.044 0.061	0.055 0.055 0.067	0.121 0.121 0.133	0.229 0.229 0.234	0.392 0.392 0.392
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)										80 80 80
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.7	1.2	1.9	2.9	4.2	5.9	8.0	10.7

RADIUS

700

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	60 60 66	78 78 82	98 98 99	120 120 120
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37	40 40 40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	44 44 47	61 61 62	80 80 80
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.022 0.032 0.045	0.042 0.042 0.059	0.054 0.054 0.065	0.118 0.118 0.130	0.222 0.222 0.227	0.381 0.381 0.381
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)										80 80 80
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.7	1.2	1.9	2.8	4.1	5.7	7.8	10.4

RADIUS

720

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.0%	4.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	60 60 66	78 78 82	92 92 93	120 120 120
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37	40 40 40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	44 44 47	55 55 56	80 80 80
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.021 0.032 0.043	0.041 0.041 0.057	0.052 0.052 0.064	0.114 0.114 0.126	0.175 0.175 0.179	0.370 0.370 0.370
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)										80 80 80
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.4	0.7	1.1	1.8	2.7	4.0	5.6	7.6	10.1

RADIUS

740

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.0%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	60 60 66	78 78 82	92 92 93	113 113 113
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37	40 40 40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	44 44 47	55 55 56	73 73 73
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.021 0.031 0.042	0.040 0.040 0.056	0.051 0.051 0.062	0.111 0.111 0.123	0.170 0.170 0.174	0.303 0.303 0.303
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)										73 73 73
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.3	0.7	1.1	1.8	2.7	3.9	5.4	7.4	9.8

RADIUS

750

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	60 60 66	72 72 76	92 92 93	113 113 113
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37	40 40 40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	39 39 41	55 55 56	73 73 73
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.020 0.030 0.042	0.040 0.040 0.055	0.050 0.050 0.061	0.084 0.084 0.093	0.168 0.168 0.172	0.299 0.299 0.299
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)										
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.3	0.6	1.1	1.7	2.6	3.8	5.3	7.3	9.7

RADIUS

760

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38 47 55	53 53 63	60 60 66	72 72 76	92 92 93	113 113 113
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	33 33 35	37 37 37	40 40 40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19 23 27	27 27 32	30 30 33	39 39 41	55 55 56	73 73 73
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.020 0.030 0.041	0.039 0.039 0.054	0.049 0.049 0.060	0.083 0.083 0.091	0.166 0.166 0.169	0.295 0.295 0.295
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)										
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.3	0.6	1.1	1.7	2.6	3.8	5.3	7.2	9.5

RADIUS

780

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38	53	60	72	92	113
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	33	37	40
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	39	55	73
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.019	0.038	0.048	0.081	0.162	0.287
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.029	0.038	0.048	0.081	0.162	0.287
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.2	0.3	0.6	1.1	1.7	2.5	3.7	5.1	7.0	9.3

RADIUS

800

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.0%	5.5%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38	53	60	72	86	113	130
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	39	49	73	87
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.019	0.037	0.047	0.079	0.124	0.280	0.391
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.028	0.037	0.047	0.079	0.124	0.280	0.391
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.6	1.0	1.6	2.5	3.6	5.0	6.8	9.1	11.8

RADIUS

820

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38	53	60	72	86	107	130
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	39	49	67	87
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.019	0.036	0.046	0.077	0.121	0.226	0.382
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											87
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.6	1.0	1.6	2.4	3.5	4.9	6.6	8.8	11.5

RADIUS

840

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					38	53	60	72	86	107	130
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					19	27	30	39	49	67	87
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)					0.018	0.035	0.045	0.075	0.119	0.220	0.373
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											87
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.6	1.0	1.6	2.3	3.4	4.8	6.5	8.6	11.3

RADIUS

850

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.0%	5.0%	6.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53 53 63	60 60 66	72 72 76	86 86 86	107 107 107	130 130 130
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27 27 32	30 30 33	33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27 27 32	30 30 33	39 39 41	49 49 49	67 67 67	87 87 87
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.035 0.035 0.049	0.044 0.044 0.054	0.074 0.074 0.082	0.117 0.117 0.120	0.218 0.218 0.218	0.368 0.368 0.368
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											87 87 87
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.6	1.0	1.5	2.3	3.4	4.7	6.4	8.5	11.1

RADIUS

860

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.5%	4.0%	5.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53 53 63	60 60 66	72 72 76	86 86 86	107 107 107	123 123 123
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27 27 32	30 30 33	33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27 27 32	30 30 33	39 39 41	49 49 49	67 67 67	79 79 79
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.034 0.034 0.048	0.044 0.044 0.053	0.073 0.073 0.081	0.116 0.116 0.118	0.215 0.215 0.215	0.306 0.306 0.306
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											79 79 79
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.6	1.0	1.5	2.3	3.3	4.7	6.3	8.4	11.0

RADIUS

880

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.0%	5.0%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	86	107	123
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	49	67	79
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.034	0.043	0.053	0.113	0.210	0.299
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.034	0.043	0.053	0.113	0.210	0.299
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.9	1.5	2.2	3.2	4.5	6.2	8.2	10.8

RADIUS

900

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	4.0%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	86	100	123
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	49	60	79
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.033	0.042	0.051	0.111	0.167	0.292
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.033	0.042	0.051	0.111	0.167	0.292
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.9	1.5	2.2	3.2	4.4	6.1	8.1	10.5

RADIUS

920

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	100	123
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	60	79
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.032	0.041	0.050	0.083	0.163	0.286
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.9	1.4	2.1	3.1	4.3	5.9	7.9	10.3

RADIUS

940

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	100	116
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	60	72
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.032	0.040	0.049	0.081	0.160	0.231
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.9	1.4	2.1	3.0	4.3	5.8	7.7	10.1

RADIUS

950

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	100	116
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	60	72
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.031	0.039	0.049	0.080	0.158	0.229
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.031	0.039	0.049	0.080	0.158	0.229
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.9	1.4	2.1	3.0	4.2	5.7	7.6	10.0

RADIUS

960

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	100	116
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	60	72
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.031	0.039	0.048	0.079	0.156	0.226
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.031	0.039	0.048	0.079	0.156	0.226
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.9	1.4	2.1	3.0	4.2	5.7	7.6	9.9

RADIUS

980

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	100	116
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	60	72
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.030	0.038	0.047	0.078	0.153	0.222
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.030	0.038	0.047	0.078	0.153	0.222
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.8	1.3	2.0	2.9	4.1	5.6	7.4	9.7

RADIUS

1000

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.5%	5.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	100	116
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	60	72
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.030	0.038	0.046	0.076	0.150	0.217
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.030	0.038	0.046	0.076	0.150	0.217
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.3	0.5	0.8	1.3	2.0	2.9	4.0	5.5	7.3	9.5

RADIUS

1050

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	79	93	108
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	43	53	65
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.028	0.036	0.044	0.073	0.113	0.168
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.028	0.036	0.044	0.073	0.113	0.168
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.5	0.8	1.2	1.9	2.7	3.8	5.2	6.9	9.0

RADIUS

1100

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	4.0%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	73	93	108
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	53	65
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.027	0.034	0.042	0.051	0.108	0.160
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.027	0.034	0.042	0.051	0.108	0.160
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.4	0.7	1.2	1.8	2.6	3.6	5.0	6.6	8.6

RADIUS

1150

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.5%	4.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	73	87	108
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	47	65
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.026	0.033	0.040	0.049	0.079	0.153
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.4	0.7	1.1	1.7	2.5	3.5	4.7	6.3	8.2

RADIUS

1200

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.5%	4.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						53	60	67	73	87	101
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						27	30	33	37	47	58
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)						0.025	0.031	0.039	0.047	0.076	0.116
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.4	0.7	1.1	1.6	2.4	3.3	4.5	6.0	7.9

RADIUS

1250

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60	67	73	87	101
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	47	58
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.030	0.037	0.045	0.073	0.111
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.030	0.037	0.045	0.073	0.111
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.4	0.7	1.0	1.6	2.3	3.2	4.4	5.8	7.6

RADIUS

1300

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.5%	4.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60	67	73	87	101
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	47	58
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.029	0.036	0.043	0.070	0.107
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.029	0.036	0.043	0.070	0.107
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.4	0.6	1.0	1.5	2.2	3.1	4.2	5.6	7.3

RADIUS

1350

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60	67	73	80	94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	51
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.028	0.034	0.041	0.049	0.079
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.4	0.6	1.0	1.5	2.1	3.0	4.0	5.4	7.0

RADIUS

1400

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60	67	73	80	94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	51
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.027	0.033	0.040	0.048	0.076
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.3	0.6	0.9	1.4	2.0	2.9	3.9	5.2	6.8

RADIUS

1450

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)							60	67	73	80	94
	2 Lane (7.0 m)							60	67	73	80	94
	3 Lane (10.5 m)							66	70	74	80	94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)							30	33	37	40	43
	2 Lane (7.0 m)							30	33	37	40	43
	3 Lane (10.5 m)							33	35	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)							30	33	37	40	51
	2 Lane (7.0 m)							30	33	37	40	51
	3 Lane (10.5 m)							33	35	37	40	51
Shift (m)	1 Lane (3.5 m)							0.026	0.032	0.039	0.046	0.073
	2 Lane (7.0 m)							0.026	0.032	0.039	0.046	0.073
	3 Lane (10.5 m)							0.032	0.035	0.039	0.046	0.073
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)											
	2 Lane (7.0 m)											
	3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.3	0.6	0.9	1.4	2.0	2.8	3.8	5.0	6.5

RADIUS

1500

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.5%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m)							60	67	73	80	94
	2 Lane (7.0 m)							60	67	73	80	94
	3 Lane (10.5 m)							66	70	74	80	94
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m)							30	33	37	40	43
	2 Lane (7.0 m)							30	33	37	40	43
	3 Lane (10.5 m)							33	35	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m)							30	33	37	40	51
	2 Lane (7.0 m)							30	33	37	40	51
	3 Lane (10.5 m)							33	35	37	40	51
Shift (m)	1 Lane (3.5 m)							0.025	0.031	0.037	0.044	0.071
	2 Lane (7.0 m)							0.025	0.031	0.037	0.044	0.071
	3 Lane (10.5 m)							0.031	0.034	0.038	0.044	0.071
Plan Transition Length (m) (Lp)	1 Lane (3.5 m)											
	2 Lane (7.0 m)											
	3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.3	0.5	0.9	1.3	1.9	2.7	3.6	4.8	6.3

RADIUS

1600

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							60	67	73	80	87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							30	33	37	40	43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)							0.023	0.029	0.035	0.042	0.049
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.3	0.5	0.8	1.2	1.8	2.5	3.4	4.5	5.9

RADIUS

1700

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67	73	80	87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33	37	40	43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33	37	40	43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								0.027	0.033	0.039	0.046
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.2	0.3	0.5	0.8	1.2	1.7	2.4	3.2	4.3	5.6

RADIUS

1800

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70	73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								0.026 0.026 0.028	0.031 0.031 0.032	0.037 0.037 0.037	0.043 0.043 0.043
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.3	0.5	0.7	1.1	1.6	2.2	3.0	4.0	5.3

RADIUS

1900

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70	73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								0.024 0.024 0.027	0.029 0.029 0.030	0.035 0.035 0.035	0.041 0.041 0.041
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.3	0.4	0.7	1.0	1.5	2.1	2.9	3.8	5.0

RADIUS

2000

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70	73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								0.023 0.023 0.026	0.028 0.028 0.029	0.033 0.033 0.033	0.039 0.039 0.039
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.2	0.4	0.7	1.0	1.4	2.0	2.7	3.6	4.7

RADIUS

2100

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70	73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								0.022 0.022 0.024	0.027 0.027 0.027	0.032 0.032 0.032	0.037 0.037 0.037
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.2	0.4	0.6	0.9	1.4	1.9	2.6	3.5	4.5

RADIUS

2200

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								67 67 70	73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								33 33 35	37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)								0.021 0.021 0.023	0.025 0.025 0.026	0.030 0.030 0.030	0.036 0.036 0.036
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.2	0.4	0.6	0.9	1.3	1.8	2.5	3.3	4.3

RADIUS

2250

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.025 0.025 0.025	0.030 0.030 0.030	0.035 0.035 0.035
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.2	0.4	0.6	0.9	1.3	1.8	2.4	3.2	4.2

RADIUS

2300

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.024 0.024 0.025	0.029 0.029 0.029	0.034 0.034 0.034
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.1	0.1	0.2	0.4	0.6	0.9	1.2	1.7	2.4	3.2	4.1

RADIUS

2400

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.023 0.023 0.024	0.028 0.028 0.028	0.033 0.033 0.033
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.5	0.8	1.2	1.7	2.3	3.0	3.9

RADIUS

2500

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.022 0.022 0.023	0.027 0.027 0.027	0.031 0.031 0.031
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.5	0.8	1.1	1.6	2.2	2.9	3.8

RADIUS

2600

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.022 0.022 0.022	0.026 0.026 0.026	0.030 0.030 0.030
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.5	0.8	1.1	1.5	2.1	2.8	3.6

RADIUS

2700

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.021 0.021 0.021	0.025 0.025 0.025	0.029 0.029 0.029
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.5	0.7	1.1	1.5	2.0	2.7	3.5

RADIUS

2800

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.020 0.020 0.020	0.024 0.024 0.024	0.028 0.028 0.028
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.5	0.7	1.0	1.4	1.9	2.6	3.4

RADIUS

2900

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									73 73 74	80 80 80	87 87 87
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									37 37 37	40 40 40	43 43 43
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.019 0.019 0.020	0.023 0.023 0.023	0.027 0.027 0.027
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.5	0.7	1.0	1.4	1.9	2.5	3.3

RADIUS

3000

Design Speed (km/h)		30	40	50	60	70	80	90	100	110	120	130
Desirable Minimum Length of Circular Curve including plan transitions (m)	V2/36	25	44	69	100	136	178	225	278	336	400	469
Superelevation (%)		-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%	3.0%	3.0%
Superelevation Development Length (m) (Le)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									80 80 80	87 87 87	
Tangent Runout Length (m) (Lt)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									40 40 40	43 43 43	
Superelevation Runoff Length (m) (Ls)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									40 40 40	43 43 43	
Shift (m)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)									0.022 0.022 0.022	0.026 0.026 0.026	
Plan Transition Length (m) (Lp)	1 Lane (3.5 m) 2 Lane (7.0 m) 3 Lane (10.5 m)											
Stopping Sight Distance (m) (SSD)		31	45	62	81	102	126	151	179	209	241	275
Offset to Line of Sight (m) 1 Lane	1.0 SSD	0.0	0.1	0.2	0.3	0.4	0.7	1.0	1.3	1.8	2.4	3.2