

**DESIGN FACTORS FOR A DESIGN SPEED OF 25 MPH  
(URBAN) USING E= 4% MAX.**

| RADIUS<br>(FEET) | E<br>(%) | PAVEMENT WIDTH  |    |           |    |         |     |         |     |         |     |         |     |
|------------------|----------|---|----|-----------|----|---------|-----|---------|-----|---------|-----|---------|-----|
|                  |          | 24 FT   |    | 36 FT     |    | 48 FT   |     | 60 FT   |     | 66 FT   |     | 72 FT   |     |
|                  |          | DESIGN SOFTWARE EQUIVALENTS (NUMBER OF LANES AT LANE WIDTH) |    |           |    |         |     |         |     |         |     |         |     |
|                  |          | 1 @ 12'   |    | 1.5 @ 12' |    | 2 @ 12' |     | 3 @ 10' |     | 3 @ 11' |     | 3 @ 12' |     |
|                  |          | Lt  | Lr | Lt        | Lr | Lt      | Lr  | Lt      | Lr  | Lt      | Lr  | Lt      | Lr  |
| 2050             | NC       | 0   | 0  | 0         | 0  | 0       | 0   | 0       | 0   | 0       | 0   | 0       | 0   |
| 1350             | 2        | 35  | 35 | 43        | 43 | 52      | 52  | 58      | 58  | 63      | 63  | 69      | 69  |
| 1234             | 2.1      | 35  | 36 | 43        | 45 | 52      | 54  | 58      | 60  | 63      | 66  | 69      | 72  |
| 1119             | 2.2      | 35  | 38 | 43        | 48 | 52      | 57  | 58      | 63  | 63      | 70  | 69      | 76  |
| 994              | 2.3      | 35  | 40 | 43        | 50 | 52      | 60  | 58      | 66  | 63      | 73  | 69      | 79  |
| 858              | 2.4      | 35  | 42 | 43        | 52 | 52      | 62  | 58      | 69  | 63      | 76  | 69      | 83  |
| 750              | 2.5      | 35  | 43 | 43        | 54 | 52      | 65  | 58      | 72  | 63      | 79  | 69      | 86  |
| 664              | 2.6      | 35  | 45 | 43        | 56 | 52      | 67  | 58      | 75  | 63      | 82  | 69      | 90  |
| 593              | 2.7      | 35  | 47 | 43        | 58 | 52      | 70  | 58      | 78  | 63      | 85  | 69      | 93  |
| 534              | 2.8      | 35  | 48 | 43        | 60 | 52      | 72  | 58      | 80  | 63      | 88  | 69      | 96  |
| 483              | 2.9      | 35  | 50 | 43        | 63 | 52      | 75  | 58      | 83  | 63      | 92  | 69      | 100 |
| 440              | 3        | 35  | 52 | 43        | 65 | 52      | 78  | 58      | 86  | 63      | 95  | 69      | 103 |
| 402              | 3.1      | 35  | 54 | 43        | 67 | 52      | 80  | 58      | 89  | 63      | 98  | 69      | 107 |
| 369              | 3.2      | 35  | 55 | 43        | 69 | 52      | 83  | 58      | 92  | 63      | 101 | 69      | 110 |
| 339              | 3.3      | 35  | 57 | 43        | 71 | 52      | 85  | 58      | 95  | 63      | 104 | 69      | 114 |
| 311              | 3.4      | 35  | 59 | 43        | 73 | 52      | 88  | 58      | 98  | 63      | 107 | 69      | 117 |
| 286              | 3.5      | 35  | 60 | 43        | 75 | 52      | 90  | 58      | 100 | 63      | 110 | 69      | 120 |
| 263              | 3.6      | 35  | 62 | 43        | 78 | 52      | 93  | 58      | 103 | 63      | 114 | 69      | 124 |
| 241              | 3.7      | 35  | 64 | 43        | 80 | 52      | 96  | 58      | 106 | 63      | 117 | 69      | 127 |
| 218              | 3.8      | 35  | 66 | 43        | 82 | 52      | 98  | 58      | 109 | 63      | 120 | 69      | 131 |
| 195              | 3.9      | 35  | 67 | 43        | 84 | 52      | 101 | 58      | 112 | 63      | 123 | 69      | 134 |
| 155              | 4        | 35  | 69 | 43        | 86 | 52      | 103 | 58      | 115 | 63      | 126 | 69      | 138 |

NOTE:

Lt AND Lr VALUES IN FEET.

FOR PAVEMENT WIDTHS GREATER THAN 72 FEET USE Lr VALUES DEVELOPED BY THE DESIGN SOFTWARE.

LISTED RADIUS IS THE MINIMUM ALLOWABLE RADIUS FOR THE CORRESPONDING E, Lt, AND Lr VALUES.

SPECIFICATION REFERENCE

**TRANSITION CURVES - URBAN  
25 MPH DESIGN SPEED**

VIRGINIA DEPARTMENT OF TRANSPORTATION



ROAD AND BRIDGE STANDARDS

REVISION DATE

SHEET 1 OF 1

803.25