



TRANSPORTATION PLANNING POLICY: TP 2 / 98 BASIC DESIGN STANDARDS FOR PROVINCIAL HIGHWAYS (FOR NEW & MAJOR RECONSTRUCTION)

| DESIGN CLASSIFICATION (SEE NOTE A) | | ESTIMATED 10 - YEAR ANNUAL AVERAGE DAILY TRAFFIC | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|---------------------------------|--|--------------------|---------------------------------|------------|-----------|----------------------------------|--|---------------|-----------------------|-----------|-----|-----------|-----|-----------|--|-----------|--|
| | | TO BE DETERMINED BY ANALYSIS | | 1000 - 6000 ⁽²⁾ | | UNDER 1000 | | | 500 - 1000 | | | UNDER 500 ⁽⁹⁾ | | UNDER 300 | | | | | | | | | |
| | | | | 1000 - 6000 ⁽²⁾ | | 1000 - 7000 ⁽²⁾ | | | 300 - 1000 | | UNDER 300 | | | | | | | | | | | | |
| | | DRAWING No. (CROSS SECTION) | | 1 ^(E) | | 2/2G | | 3 | | | 4 | | | 5 / 5S1 / 5S2 | | 6 | | | | | | | |
| NUMBER OF LANES | | MULTI - LANE DIVIDED ^(I) | | TWO - LANE | | TWO - LANE | | | TWO - LANE | | | TWO - LANE | | TWO - LANE | | | | | | | | | |
| TERRAIN ^(F) | | ALL | | ALL | | FLAT | | ROLLING/RUGGED | | FLAT | | ROLLING | | RUGGED | | FLAT | | ROLLING | | RUGGED | | | |
| DESIGN SPEED - km/h | | 130 ^(A) | | 120 ^(A) | | 120 ^(A) | | 110 ^(A) | | 120 | | 110 | | 100 | | 110 | | 100 | | 90 | | | |
| CURVATURE - MINIMUM RADIUS - m ⁽¹⁰⁾ | | 950 ^{(D)(A)} | | 750 ^(A) | | 750 ^(A) | | 600 ^(A) | | 750 | | 600 | | 440 | | 600 | | 440 | | 340 | | | |
| VERTICAL CURVE - MIN. K VALUES | | S = 65 , C = 120 | | S = 60 , C = 105 | | S = 60 , C = 105 | | S = 55 , C = 85 | | S=60,C=105 | | S=55,C=85 | | S=50,C=70 | | S=55,C=85 | | S=50,C=70 | | S=40,C=55 | | S=50,C=70 | |
| GRADIENT - MAXIMUM PERCENT ⁽³⁾ | | 3 ^(A) | | 3 ^(A) | | 3 ^(A) | | 5 ^(A) | | 3 | | 6 | | 7 | | 3 | | 6 | | 7 | | 4 | |
| STOPPING SIGHT DISTANCE - m | | 260 ^(A) | | 240 ^(A) | | 240 ^(A) | | 220 ^(A) | | 240 | | 220 | | 200 | | 220 | | 200 | | 170 | | 200 | |
| PASSING SIGHT DISTANCE - m ⁽⁴⁾ | | NOT APPLICABLE | | 800 | | 800 | | 740 | | 800 | | 740 | | 680 | | 740 | | 680 | | 620 | | 680 | |
| SURFACE TYPE | | CONCRETE OR BITUMINOUS PAVEMENT | | CONCRETE OR BITUMINOUS PAVEMENT | | CONCRETE OR BITUMINOUS PAVEMENT | | | CONCRETE OR BITUMINOUS PAVEMENT | | | SURFACE TREATMENT ⁽⁷⁾ | | | GRAVEL ⁽⁹⁾ | | | | | | | | |
| LANE WIDTH - m | | 3.7 | | 3.7 | | 3.7 | | | 3.7 | | | 3.7 ⁽⁹⁾ | | | N. A. | | | | | | | | |
| SHOULDER WIDTH - m | | 2-3 RIGHT 1-1.5 LEFT ^{(8)(A)} | | 3.0 ^{(8)(A)} | | 2.5 ^{(8)(A)} | | | 2.0 ^{(8)(A)} | | | 1.0 - 1.5 ^{(8)(9)(A)} | | | N. A. | | | | | | | | |
| ROADBED WIDTH - m | | VARIABLE | | VARIABLE | | VARIABLE | | | VARIABLE | | | VARIABLE ⁽⁹⁾ | | | 8 | | 8.4 | | 8.4 | | | | |
| MEDIAN - m | | DEPRESSED ⁽⁵⁾ | | 15 MINIMUM 20-40 NORMAL | | N. A. | | | N. A. | | | N. A. | | | N. A. | | | | | | | | |
| WIDTH | | CURBED ⁽⁶⁾ | | 5-12 NORMAL | | N. A. | | | N. A. | | | N. A. | | | N. A. | | | | | | | | |
| RIGHT OF WAY - m | | AS REQUIRED | | 60 | | 60 | | | 60 | | | 50 ⁽⁹⁾ | | | 45 | | 50 | | 50 | | | | |
| STRUCTURES WIDTHS BASED ON THE ASSUMPTION OF 1.2 m INCREMENTS | | CLEAR WIDTH ^(B) | | UNDER 60 m LONG | | PAVEMENT PLUS SHOULDERS | | 13.2 | | 12.0 | | 12.0 | | 9.6 - 10.8 | | | 9.6 | | | | | | |
| | | 60 m LONG | | 10.8 ^(C) | | 10.8 | | 9.6 | | 9.6 | | 9.6 | | | 9.6 | | | | | | | | |
| | | LOADING | | HSS 25 TRUCK OR HS 30 (LANE LOADING) FOR PTH OR MAJOR PR STRUCTURES. HSS 25 FOR MINOR PR STRUCTURES. | | | | | | | | | | | | | | | | | | | |
| | | VERTICAL CLEARANCE | | ALL 5.0 m (ALLOWS FOR 0.1 m RESURFACING DEPTH) | | | | | | | | | | | | | | | | | | | |

NOTE: IN GENERAL THESE STANDARDS ARE A MINIMUM, TO BE BETTERED WHEN FEASIBLE, LOWERING MAY BE CONSIDERED WHEN HEAVY ECONOMIC PENALTY OR MAJOR ENVIRONMENTAL IMPACT RESULTS.

1. FULL CONTROL OF ACCESS WHENEVER POSSIBLE: No. OF LANES DETERMINED BY CAPACITY ANALYSIS.

2. FACTORS SUCH AS ECONOMICS, SAFETY, HOURLY FLOWS, TRUCK TRAFFIC, SEASONAL VARIATIONS, THE FUNCTION OF THE HIGHWAY, AND ENVIRONMENTAL CONSIDERATIONS HAS A BEARING ON THE DECISION TO FOUR LANE.

3. ALL GRADES SHOULD BE REVIEWED FOR SLOPE AND LENGTH TO DETERMINE IF THERE IS A NEED FOR A TRUCK CLIMBING LANE.

4. IT IS DESIRABLE TO PROVIDE PASSING SIGHT DISTANCE ON A MINIMUM 25% OF ANY 2 km AND A MINIMUM OF 50% IN ANY 15 km.

5. MEDIAN WIDTH INCLUDES THE INSIDE SHOULDER.

6. MEDIAN WIDTH MAY INCLUDE A 0.3 - 0.5 m CURB OFFSET (CURB NOT RECOMMENDED FOR RURAL AND HIGH SPEED ROADWAYS).

7. BASE COURSE AND ASPHALT SURFACE TREATMENT OR CALCIUM CHLORIDE ON WELL DRAINED A3 OR BETTER SOILS; HEAVIER PAVEMENT, IF WARRANTED, ON POORLY DRAINED A4-A7 SOILS.

8. SEE APPLICABLE CROSS SECTION FOR PAVED SHOULDER TREATMENT (BASED ON THE PAVED SHOULDER POLICY).

9. CONSIDER STAGE CONSTRUCTION, IF SURFACE TREATMENT NOT POSSIBLE FOR 5-10 YEARS OR IF THE FUNCTION OF THE HIGHWAY SO WARRANTS.

10. HORIZONTAL CURVE DATA BASED ON MAXIMUM SUPERELEVATION OF 6%.

^(A) FOR DESIGN SPEED AND ASSOCIATED PARAMETERS ON MULTI-LANE COLLECTORS, NATIONAL HIGHWAYS, PARKWAYS AND SUBURBAN HIGHWAYS. CONSULT ENGINEERING & TECHNICAL SERVICES.

^(B) OTHER FEATURES IN THE VICINITY OF THE STRUCTURE SUCH AS INTERSECTIONS, ROAD CURVATURE, THE NEED FOR A SIDEWALK, ETC., COULD AFFECT THE REQUIRED STRUCTURE WIDTH. CLEAR WIDTH IS "IN TO IN" OF CURBS.

^(C) WIDTH OF 2 LANE, 1 - WAY OVERPASS. FOR MORE THAN 4 LANE DIVIDED OR FOR UNDERPASS, CONSULT ENG. & TECH. SERVICES.

^(D) MINIMUM RECOMMENDED RADIUS: 1100 - 1200 m ON TRANS CANADA HIGHWAY

^(E) STANDARDS FOR FRONTAGE/SERVICE ROADS AS PER DRAWING No. 5 OR 6 (EXCEPT FOR RIGHT OF WAY REQUIREMENTS.)

^(F) USE OF RUGGED TERRAIN STANDARDS MUST BE JUSTIFIED ON BASIS OF SUCH FACTORS AS SIGNIFICANT REDUCTION IN CONSTRUCTION COSTS AND ENVIRONMENTAL IMPACTS. ONLY TO BE CONSIDERED WITHIN SUCH AREAS AS THE WESTERN UPLANDS, DEEP RIVER VALLEYS AND THE CANADIAN SHIELD.

RECOMMENDED BY

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