

Table 2.6.4M Characteristics of Rural Roads: Basic Design Standards for Manitoba Transportation & Infrastructure

		ESTIMATED 10-YEAR ANNUAL AVERAGE DAILY TRAFFIC												
DESIGN CLASSIFICATION	FREEWAYS/ EXPRESSWAYS	REQUIREMENT FOR MULTI - LANE DIVIDED HIGHWAY TO BE DETERMINED BY ANALYSIS												
	PRIMARY ARTERIALS		≥2000	<2000										
	SECONDARY ARTERIALS			>2000	1000 ≤ 2000			400 ≤ 1000			<400			
	COLLECTORS			>2000	1000 ≤ 2000			400 ≤ 1000			<400			
NUMBER OF LANES		MULTI - LANE DIVIDED B	TWO - LANE	TWO - LANE		TWO - LANE			TWO - LANE			TWO - LANE		
MAXIMUM SUPERELVATION - %		6	6	6	6	6	6	6	6	6	6	6	6	6
TERRAIN TYPE		ALL	ALL	FLAT	ROLLING / RUGGED C	FLAT	ROLLING	RUGGED C	FLAT	ROLLING	RUGGED C	FLAT	ROLLING	RUGGED C
DESIGN SPEED - km/h D		130	120	120	110	120	110	100	110	100	90	100	90	80
CURVATURE - MINIMUM RADIUS - m		950 E	750	750	600	750	600	440	600	440	340	440	340	250
MINIMUM HORIZONTAL CURVE LENGTH		See Geometric Design Guide Supplement 3.2.6.1M												
VERTICAL CURVE - MIN. K VALUES		C = 150 S = 65	C = 115 S = 60	C = 115 S = 60	C = 90 S = 55	C = 115 S = 60	C = 90 S = 55	C = 65 S = 50	C = 90 S = 55	C = 65 S = 50	C = 50 S = 40	C = 65 S = 50	C = 50 S = 40	C = 35 S = 30
MINIMUM DISTANCE BETWEEN VPIs - m		300	300	300	300	300	300	300	300	300	300	200	200	200
MAXIMUM GRADIENT - % F		3	3	3	5	3	5	7	3	6	7	4	7	8
STOPPING SIGHT DISTANCE - m		260	240	240	220	240	220	200	220	200	170	200	170	140
PASSING SIGHT DISTANCE - m G		NOT APPLICABLE	800	800	740	800	740	680	740	680	620	680	620	560
THROUGH LANE WIDTH - m		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	8.0 H	8.4 H	8.4 H
SHOULDER WIDTH		See Geometric Design Guide Supplement 4.4.2.1M for shoulder widths and Geometric Design Guide Supplement 4.4.5M for shoulder edge treatment										N.A.	N.A.	N.A.
SIDE SLOPE - H:V		MEDIAN 6:1 OUTER 4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1
BACK SLOPE - H:V		3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1
MINIMUM DITCH WIDTH - m		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
MEDIAN WIDTH - m I	DEPRESSED	15 MINIMUM 25-40 DESIRABLE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	RAISED	5 MINIMUM 12 DESIRABLE												
RIGHT-OF-WAY WIDTH - m		AS REQUIRED	60	60	60	60	60	60	50	50	50	45	50	50
VERTICAL CLEARANCE - m	OVER RAILWAYS J	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)	7.01 (23 ft)
	PEDESTRIAN OVERPASSES	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
	OTHER	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4

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	
A 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 ADD ADDITIONAL THROUGH LANES.	F ALL GRADES SHOULD BE REVIEWED FOR SLOPE AND LENGTH TO DETERMINE IF THERE IS THE NEED FOR A TRUCK CLIMBING LANE.
B FULL CONTROL OF ACCESS WHENEVER POSSIBLE: No. OF LANES DETERMINED BY CAPACITY ANALYSIS.	G 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.
C USE OF RUGGED TERRAIN STANDARDS MUST BE JUSTIFIED ON THE BASIS OF SUCH FACTORS AS SIGNIFICANT REDUCTION IN CONSTRUCTION COSTS AND ENVIRONMENTAL IMPACTS. ONLY TO BE CONSIDERED IN SUCH AREAS AS THE WESTERN UPLANDS, DEEP RIVER VALLEYS, AND THE CANADIAN SHIELD.	H WIDTH IS TOTAL TOP WIDTH, NOT LANE WIDTH.
D FOR DESIGN SPEED AND ASSOCIATED PARAMETERS ON MULTI-LANE COLLECTORS, NATIONAL HIGHWAYS, PARKWAYS, AND SUBURBAN HIGHWAYS, CONSULT HIGHWAY DESIGN.	I MEDIAN WIDTH IS MEASURED FROM INSIDE EDGE OF THROUGH LANE TO INSIDE EDGE OF THROUGH LANE.
E THE MINIMUM RADIUS IS 1100 m ON PTH 1 AND PTH 75.	J CURRENT AS OF MARCH 14, 2025. DESIGNER TO CONFIRM CLEARANCE REQUIREMENTS WITH THE APPLICABLE RAILWAY.