8820.9922 MINIMUM DESIGN STANDARDS; NEW BRIDGE, BRIDGE REPLACEMENT, OR BRIDGE REHABILITATION PROJECTS AND APPROACH ROADWAYS ON RURAL OR SUBURBAN UNDIVIDED ROADWAYS THAT ARE NOT ON THE STATE-AID SYSTEM.

New bridge, bridge replacement, or bridge rehabilitation projects and approach roadways on rural or suburban undivided roadways that are not on the state-aid system must meet or exceed the minimum dimensions indicated in the following design chart.

Existing ADT (a)	Lane Width (b)	Shoulder Width	Inslope (c)	Clear Zone (d)	Minimum Design Speed (e)
	(feet)	(feet)	(rise: run)	(feet)	(mph)
0-49 (f)	11	1	1:3	7	30
50-149	11	3	1:4	9	30
150-400	11-12(f)	4	1:4	15(g)	30

Engineering judgment may be used to choose a lane-width or shoulder-width dimension other than the widths indicated in the chart for roadways. Factors to consider may be safety, speed, population, land use, benefit/cost analysis, traffic mix, farm equipment, environmental impacts, terrain limitations, bicycle traffic, pedestrian traffic, other nonmotorized uses, functional classification, or other factors. Widths less than those indicated in the chart require a variance in accordance with parts 8820.3300 and 8820.3400.

(a) For existing ADT greater than 400, part 8820.9920 standards apply.

(b) The state-aid engineer may approve lane widths of ten feet on roads classified as local or collector where truck and bus volumes are relatively low, rights-of-way are constrained, design speeds are 35 miles per hour or less, and ADT is less than 1,500.

(c) Applies to slope within the clear zone only.

(d) Culverts with less than 30-inch vertical height allowed without protection in the clear zone. Mn/DOT Road Design Manual clear zone widths may be used in lieu of the values in the table in this part.

(e) Subject to terrain.

(f) Where two dimensions are shown, the larger values within the range are desirable.

(g) For roadways in suburban areas, the clear zone may be reduced to a width of ten feet for projected ADT under 1,000 and to 20 feet for projected ADT of 1,000 or over. Wherever the legal posted speed limit is 45 miles per hour or less, the clear zone may be reduced to a width of ten feet.

Bridges and approach roadways of minimum 20-foot clear width and 20-foot width to the outsides of the shoulders may be constructed where existing ADT is less than 50, potential for increasing ADT is low, and the local government agency finds that the bridge can operate effectively at that width for the expected life of the bridge.

HL-93 loading in the AASHTO LRFD (load and resistance factor design) Specifications is required for new or reconstructed bridges. Rehabilitated bridges must have a load rating factor of at least 0.9 using the AASHTO Manual for Bridge Evaluation, LRFR (load and resistance factor rating) for inventory level. The curb-to-curb minimum width for new or reconstructed bridges must be equal to the proposed lane plus shoulder widths, but in no case less than (1) the minimum lane width plus four feet, and (2) the width required under Minnesota Statutes, section 165.04.

Statutory Authority: *MS s 14.386; 14.389; 162.02; 162.09; 162.155*

History: *29 SR 449; 36 SR 925; 42 SR 485*
Published Electronically: *November 20, 2017*