

**8820.9936 MINIMUM DESIGN STANDARDS, URBAN; NEW OR RECONSTRUCTION PROJECTS.**

New or reconstruction projects for urban roadways without a designated on-road bicycle facility must meet or exceed the minimum dimensions indicated in the following design chart.

Projected Traffic Volume	Design Speed	Lane Width (a)	Curb Reaction Distance (c)	Parking Lane Width (e)
	mph	feet	feet	feet
ADT < 10,000	30-45	(b) 10-11	1-2 (d)	7-8
	50 or over	11-12	2	8-10
ADT ≥ 10,000	30-35	(b) 10-11	1-2 (d)	7-10
	40-45	11-12	1-4	7-10
	50 or over	11-12	2-4	Not allowed

Engineering judgment may be used to choose a lane-width dimension other than the widths indicated in the chart for roadways. Factors to consider include safety, speed, population/land use, benefit/cost analysis, traffic mix, peak hourly traffic, 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) Twelve feet should be considered in industrial areas. One-way turn lanes must be at least ten feet wide, except 11 feet is required if the design speed is 50 mph or higher.

(b) Ten feet may be considered where truck or bus volumes are relatively low, rights-of-way are constrained, and design speeds are 35 mph or less. Eleven feet minimum is required on four-lane, undivided facilities.

(c) Curb reaction must be provided only where parking is not provided.

(d) The state-aid engineer may approve a zero-foot curb reaction distance where the cross-section is constrained, appropriate curb types are used, and drainage collection is adequate. The curb must be constructed without a gutter or monolithically with the adjacent traveled way.

(e) The roadway ADT and the vehicle mix must be considered when determining parking lane width. In commercial or industrial areas, the minimum parking lane width is eight feet.

One-way streets must have at least two through-traffic lanes.

When a median is included in the design of the two-way roadway, a one-foot minimum curb reaction distance to the median is required on either side of the median. Minimum median width is four feet.

Urban design roadways must be a minimum nine tons structural axle load design.

Roadways not on the state-aid system are not subject to the minimum structural design strength requirements.

The minimum curb-to-curb width of a new bridge must be the required street width, but in no case less than required per Minnesota Statutes, section 165.04. 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. Where the new bridge approach roadway includes elements for the accommodation of pedestrians or bicycles, the new bridge width must also provide for pedestrians or bicycles unless pedestrians or bicycles are otherwise accommodated.

For ADT less than 150, the widths of bridges to remain must be at least the sum of the lanes. For ADT greater than or equal to 150, the widths of bridges to remain must be at least the sum of the lanes plus half the sum of the shoulders, parking lane, and curb reaction distance. Bridges to remain must have a load rating factor of at least 0.75 using the AASHTO Manual for Bridge Evaluation, LRFR (load and resistance factor rating) for inventory level.

Clearance of 1.5 feet from the face of the curb to fixed objects must be provided when the design speed is 40 to 45 mph. A ten-foot clear zone measured from the driving lane must be provided when the design speed is 50 mph or higher.

Unless four lanes are provided, an engineering traffic study is required for traffic volumes greater than 15,000 projected ADT to determine lane configuration and lane use.

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

**History:** *20 SR 1041; 23 SR 1455; 24 SR 1885; 29 SR 449; 32 SR 608; 36 SR 925; 37 SR 697; 42 SR 485*

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