

# 3R MINIMUM DESIGN GUIDELINES RURAL NHS - NON INTERSTATE ROUTES REPLACEMENT AND MAJOR REHABILITATION

POSTED SPEED	CURRENT ADT	TRUCKS < 10%		TRUCKS ≥ 10%		BRIDGE WIDTH <sup>^^</sup>	
		LANE WIDTH*	SHLDR WIDTH** (2' min. paved)	LANE WIDTH*	SHLDR WIDTH** (2' min. paved)	MIN (2 LANES)	DESIRABLE
< 50	0 - 1500	11'	2'	11'	3'	24'	Travel Width + 2'
> 50		11'	3'	12'	4'	24'	Travel Width + 2'
< 50	1501 - 4000	11'	3'	12'	3'	24'(T<10%)/28'(T≥10%)	Travel Width + 4'
> 50		12'	3'	12'	4'	28'	Travel Width + 4'
ALL	> 4000	12'	6'	12'	6'	30'	Travel Width + 6'

\*Minimum widths.

\*\*Minimum widths. For divided highways, provide 4' inside shoulder with 2' min. paved. 4' minimum paved outside shoulder is desirable.

<sup>^^</sup> If clear width < travel width plus shoulder widths, delineate approaches by striping and/or signing. Update approach guard rail and end treatments, as applicable.

Roadway Cross slope = 2.5%

Horizontal Clearance = 10' minimum

Horizontal Curvature = Match existing. If curve advisory speed < roadway posted speed minus 15 mph, low cost safety improvements shall be considered.

Use 12' lanes in curves if degree of curve exceeds 5° for ADT < 1501 and 4° for ADT > 1500.

Vertical Curvature = Match existing.

Stopping Sight Distance (SSD) = Match existing. If SSD < required for roadway posted speed minus 20 mph, low cost safety improvements shall be considered.

Superelevation & Transitions = Match existing but not less than minimum shown in "Superelevation Values for Preservation/Rehabilitation/Replacement (PRR) Projects".

When existing foreslope rates can be maintained within existing right-of-way, desirable values for superelevation and transitions are to be used.

Foreslope = Match existing. If crash history, 3h:1v or flatter is desirable.

Roadway Grade = Match existing.

Vertical Clearance = Match existing.

Structural Capacity = Match existing. Capacity must be checked by Bridge Design Section if any work is done to bridge deck and/or bridge rails.

For minor rehabilitation and preservation projects, refer to "Guidance for Preservation/Rehabilitation/Replacement (PRR) Projects".

For reconstruction projects (new structure including subbase, new alignment, major changes to alignment, or addition of travel lanes), refer to DOTD Minimum Design Guidelines.


For ADA requirements, refer to "Guidance for Preservation/Rehabilitation/Replacement (PRR) Projects".

Justification is required in the PRR Report if any of the above criteria is not met.

DOTD Pavement PRR Minimum Design Guidelines also apply.

9/1/2010

Approved:

  
DOTD Chief Engineer

Date

9.30.10

# 3R MINIMUM DESIGN GUIDELINES URBAN & SUBURBAN NHS - NON INTERSTATE ROUTES REPLACEMENT AND MAJOR REHABILITATION

POSTED SPEED	CURRENT ADT	SECTION	TRUCKS < 10%		TRUCKS ≥ 10%		BRIDGE WIDTH*
			LANE WIDTH*	PAVED SHLDR WIDTH*	LANE WIDTH*	PAVED SHLDR WIDTH*	
ALL	ALL	CURB	10'	0'	11' (12'desirable)	0'	Travel Width
		NO CURB	11'	6' Outside, 4' Inside	11' (12'desirable)	6' Outside, 4' Inside	Travel Width + 6' (30' min)

\* Minimum widths

Roadway Cross Slope = Match existing for curbed sections. 2.5% desirable.

Roadway Cross slope = 2.5% for non curbed sections.

Horizontal Clearance = Match existing.

Horizontal Curvature = Match existing. If curve advisory speed < roadway posted speed minus 15 mph, low cost safety improvements shall be considered.

Vertical Curvature = Match existing.

Stopping Sight Distance (SSD) = Match existing. If SSD < required for roadway posted speed minus 20 mph, low cost safety improvements shall be considered.

Superelevation & Transitions = Match existing but not less than minimum shown in "Superelevation Values for Preservation/Rehabilitation/Replacement (PRR) Projects".

Foreslope = Match existing. If crash history, 3h:1v or flatter is desirable (No Curb).

Roadway Grade = Match existing.

Vertical Clearance = Match existing.

Structural Capacity = Match existing. Capacity must be checked by Bridge Design Section if any work is done to bridge deck and/or rails.

Urban/Suburban refers to functional class of roadway and not geographic location.

For minor rehabilitation and preservation projects, refer to "Guidance for Preservation/Rehabilitation/Replacement (PRR) Projects".

For reconstruction projects (new structure including subbase, new alignment, major changes to alignment, or addition of travel lanes), refer to DOTD Minimum Design Guidelines.

For ADA requirements, refer to "Guidance for Preservation/Rehabilitation/Replacement (PRR) Projects".

Justification is required in the PRR Report if any of the above criteria is not met.

DOTD Pavement PRR Minimum Design Guidelines also apply.

9/1/2010

Approved:

  
DOTD Chief Engineer

Date

9.30.10