WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DESIGN DIRECTIVE

609
INTERSTATE RRR STANDARDS AND GUIDANCE
October 19, 2006

Attached is the West Virginia Department of Transportation, Division of Highways, Interstate RRR Standards and Guidance. It shall be used on all applicable projects.

Attachment

INTERSTATE RRR STANDARDS AND GUIDANCE

INTRODUCTION

As per the 2005 AASHTO publication "*A Policy on Design Standards-Interstate System*," "the standards used for horizontal alignment, vertical alignment, and widths of median, traveled way, and shoulders for resurfacing, restoration, and rehabilitation (RRR) projects may be the AASHTO interstate standards that were in effect at the time of the original construction or inclusion into the interstate system." Based on this, these issues will not be evaluated on Interstate RRR projects.

Issues to be evaluated are roadside safety, vertical clearance, pavement and shoulder cross slope, and bridges to remain in place. The Designer will coordinate with the District Traffic Engineer for the District in which the project is located for a determination if the project includes locations with known safety issues, based on the Division of Highway's tracking system prioritized safety improvements list. These safety issues will be evaluated and addressed in the project, if feasible.

SAFETY

Safety enhancement is an essential consideration of any RRR project, including Interstate projects. In light of this, the following safety measures are to be considered.

Road Safety Audits

A Road Safety Audit (RSA) is the formal safety performance examination of the existing road or interchange by an independent audit team. Its main objective is to address the safe operation of interchanges and roadways to ensure a high level of safety for all road users. More information concerning RSA's can be found at the following web sites: safety.fhwa.dot.gov/state_program/rsa/ and www.roadwaysafetyaudits.org.

RSA teams assess the crash potential and safety performance of roadways and interchanges and prepare a report that identifies potential safety issues. Project officials or managers can then evaluate and determine appropriate changes. An RSA can be used in any phase of project development from planning to construction. An RSA done during the planning stage and very early in the design stage can identify potential safety issues before they are built into the project.

It is recommended that Road Safety Audits be conducted on freeway RRR projects. This determination will be made by the Traffic Engineering Division in conjunction with the District Traffic Engineer for the District in which the project is located. If it is decided a Road Safety Audit is not necessary, then at minimum the crash data must be obtained and analyzed to identify any existing safety problems.

Clear Zone

The clear zone for Interstate RRR projects shall be determined in accordance with the most current and approved version of the AASHTO Roadside Design Guide, and be consistent with the highway's posted speed limit, projected traffic volumes, and proposed side slopes.

Horizontal Clearance To Obstructions

Design options for the treatment of non-traversable/fixed obstacles within the clear zone as determined above shall be in accordance with the most current and approved version of the AASHTO Roadside Design Guide.

Sideslopes

Reference is made to DD-608 for more information concerning sideslope requirements for Interstate RRR projects. This Design Directive requires the determination of existing roadway departure accident rates in accordance with DD-608.

Also see DD-661 through DD-664 for information concerning roadside safety, guardrail, use of curb, and median barrier.

Rumble Strips

Reference is made to DD-645 concerning placement of Rumble Strips.

VERTICAL CLEARANCE

Clear height of structures shall not be less than 16 feet over the entire roadway and usable shoulder width. The vertical clearance to pedestrian overpasses and the bottom of the lowest portion of a sign installation shall be 17 feet minimum. In urban areas, the 16 feet clearance shall apply to a single routing. All other urban routes shall be 14 feet minimum.

PAVEMENT AND SHOULDER CROSS SLOPE

Reference is made to DD-601 for typical sections for both tangent and superelevated sections.

Tangent Sections

Thru-lane: 1.6% minimum

Shoulder: 2% to 6%

Shoulder cross slope will not be less than the cross slope of the adjacent thru-lane. Shoulder cross slope may be steepened on overlay projects in order to minimize impacts

to the project as long as the above referenced criteria is met.

Superelevated Sections

Superelevation will be correlated with design speed in accordance with DD-603. Superelevation will be limited to 8% maximum.

Shoulders on the low side of superelevation will have the same superelevation as the thru-lane, although a minimum of 4% will be required. Shoulders on the high side of superelevation will have a 6% breakover for the inside shoulder (6 feet typical) and a 3% breakover for the outside shoulder (12 feet typical).

BRIDGES TO REMAIN IN PLACE

A bridge may remain in place if the operating rating capacity can safely service the system for an additional 20-year service life.

The bridge cross section shall meet the following criteria:

Thru-lane width:	12 feet
Shoulder right of traffic:	10 feet
Shoulder left of traffic:	3.5 feet

For long bridges (length > 200 feet), 3.5 feet shoulders to the right of traffic are acceptable.

Bridge Railing is to meet or be upgraded to current standards.