

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
LITTLE ROCK, ARKANSAS

October 28, 2004

MEMORANDUM

TO: Phil Brand, Division Head, Bridge ✓
Charles Clements, Division Head, Roadway Design
Jake Weston, Division Head, State Aid

FROM: Phillip McConnell, Assistant Chief Engineer-Design
Phillip McConnell

SUBJECT: Design Exception Policy

AHTD design standards for geometric design for new construction on State and Federal projects are in accordance with the standards in AASHTO's publications, "A Policy or Design Standards – Interstate System" and "A Policy on Geometric Design of Highways and Streets". Occasionally, however, conditions may warrant exceptions to these standards.

The attached design exception process has been developed and approved to provide documentation when design exceptions are warranted. Please implement this process.

Attachment

C: Chief Engineer

ARKANSAS STATE HIGHWAY
AND TRANSPORTATION
DEPARTMENT

OCT 29 2004

RECEIVED
BRIDGE DIVISION

S
CPB
CJF
AMS
JOT
PSC
HFD
WBB

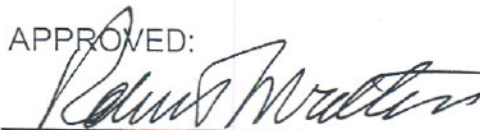
ARKANSAS STATE HIGHWAY AND
TRANSPORTATION DEPARTMENT

DESIGN EXCEPTION PROCESS
FOR FEDERAL AND STATE
HIGHWAY PROJECTS

RECOMMENDED:


Assistant Chief Engineer-Design

APPROVED:


Chief Engineer

July 28, 2004

DESIGN EXCEPTION PROCESS FOR FEDERAL AND STATE HIGHWAY PROJECTS

DESIGN STANDARDS

Geometric design criteria for new construction and major reconstruction will be, as a minimum, in accordance with criteria established in AASHTO's "A Policy on Design Standards-Interstate System" or in the appropriate section of the current, adopted edition of the AASHTO publication, "A Policy on Geometric Design of Highways and Streets," as noted below:

Arterials.....	Arterial Standards
Major Collectors	Collector Standards
Minor Collectors	Local Standards
Locals.....	Local Standards

On collectors and locals, shoulders may be surfaced across their entire width, regardless of the widths of bridge structures.

Resurfacing, Restoration and Rehabilitation (3R) design criteria will be in accordance with the Department's 3R Guidelines, September 1989, which have been approved by the FHWA.

Department policy is to conform to the preceding geometric design criteria unless conditions warrant a design exception. The determination to recommend a project design that does not conform to the minimum geometric design criteria is to be made only after due consideration is given to all project conditions. Some conditions that may warrant exceptions could be: extreme difficulty or high cost of obtaining rights-of-way, substantial increase in the cost of construction, potential mitigation of environmental impacts, or the preservation of historic or scenic values of a particular location. The careful application of the flexibility provided in the design standards should be used to provide safe and efficient transportation facilities that are sensitive and responsive to scenic, aesthetic, historic, environmental and other community values.

CONTROLLING DESIGN CRITERIA

Controlling design criteria are those highway design elements that are judged to be the most critical indicators of a highway's safety and design aspects and its overall serviceability for the design period. FHWA has established and the Department has adopted the following design elements as controlling criteria that require formal approval for exceptions from accepted design standards:

1. Design Speed
2. Lane Width
3. Shoulder Width
4. Bridge Width
5. Structural Capacity
6. Horizontal Alignment
7. Vertical Alignment
8. Grade
9. Stopping Sight Distance
10. Cross Slope
11. Superelevation
12. Vertical Clearance
13. Horizontal Clearance (other than the "Clear Zone")

DESIGN EXCEPTION EVALUATION

Requests for design exceptions should include the following information:

- Description of existing highway conditions and proposed improvements, e.g., functional classification, amount and character of the traffic, type of project, etc.
- Discussion of the compatibility of the proposed improvement with adjacent roadway segments including discussion of planned improvements in the area. Any future improvements that are programmed should also be taken into consideration.
- Thorough description of the substandard feature(s).
- The extent to which the exception differs from the design standard, the difficulty with achieving the standard, the cost of achieving full standards, the effect of the design exception on other controlling criteria, and other options that have been considered.
- Crash data for at least the latest three-year period including numbers and types of crashes, severity, and analysis of the crash history and any perceived roadway contributing factors.

- Impacts that would result if the design standard was met including scenic, historic, environmental, and cost impacts.
- Safety or geometric enhancements that will be included to mitigate the effects of the substandard feature.

APPROVAL-National Highway Systems (NHS) Projects

The appropriate Design Division will prepare a written report and submit it to the Assistant Chief Engineer for Design for review. When acceptable, the Assistant Chief Engineer for Design will forward the design exception report to the Chief Engineer. If the Chief Engineer concurs, the exception report will be forwarded to the FHWA for approval. The FHWA is the approval agency of all NHS exceptions regardless of funding source.

APPROVAL-Non-National Highway Systems (NHS) Projects

The appropriate Design Division will prepare a written report and submit it to the Assistant Chief Engineer for Design for review. When acceptable, the Assistant Chief Engineer for Design will forward the report to the Chief Engineer for approval.

DOCUMENTATION

A copy of the approved Design Exception shall be maintained in the project master files. A copy shall also be maintained in the originating design division.