



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE, TENNESSEE 37243-0348

INSTRUCTIONAL BULLETIN NO. 07-18

Regarding Design Exception Requests

Effective immediately, Section 3-110.02 on pages 3-1 through 3-5 of the English and Metric Design Guidelines shall be modified. This section is revised to address current design exception approval requirements and includes an updated design exception request form.

3-110.02 DESIGN EXCEPTION REQUESTS

Despite the range of flexibility that exists with respect to the controlling elements of design, there are situations in which the accepted criteria are not applicable to the project circumstances or could not reasonably be met. For such instances, when it is appropriate, the design exception process allows for the use of criteria other than the accepted values.

The design exception process requires formal approval for exceptions relating to the following 13 controlling criteria: (1) design speed, (2) lane width, (3) shoulder width, (4) bridge width, (5) structural capacity, (6) horizontal alignment, (7) vertical alignment, (8) grades, (9) stopping sight distance, (10) cross slopes, (11) superelevation, (12) vertical clearance, and (13) horizontal clearance (other than the clear zone).

The approval authority for design exceptions on the Interstate System or the Appalachian Development Highway System is with the **FHWA Division Administrator**. The approval authority for design exceptions on any other system is with the **TDOT Director of the Design Division**.

Design exception requests for Interstate or Appalachian Development Highway System projects shall be submitted to the FHWA Division Administrator **from** the Director of the Design Division.

All applicable material from the following list shall be addressed in narrative form on the **Design Exception and Justification Form**, shown in Figure 3-1, by the C. E. Manager 1 or Transportation Manager 1, Design Office who is responsible for the design of the project for which the design exception request is made. For locally developed projects, the highest local official responsible for the project is responsible for this task.

1. Accident experience or data
2. The effect of the variance from the design standard on safety and operation of the facility.
3. Any safety mitigation measures considered and provided to minimize the effect of the reduced design.
4. The compatibility of the design and operation with adjacent sections.

5. The comparative cost of the full standard versus the lower design being proposed.
6. The long term effect of the reduced design as compared to the full standard.
7. The difficulty in obtaining the full standard such as right-of-way restriction, delays, environmental impacts, etc.
8. Any capacity reductions or operational problems caused by the proposed exception.
9. Level of service for full standards versus the reduced design.
10. The cumulative effect of more than one standard that is being reduced.
11. The possibility of improving or correcting the reduced design feature in the future.

The completed design exception including any attachments shall be submitted to the appropriate Assistant Director (C.E. Manager 2). The design exception will then be distributed to a Design Exception Review Committee appointed by the Director of the Design Division. The Design Exception Review Committee will review the exception and provide a recommendation regarding approval of the design exception. If necessary, the review committee will provide the Civil Engineering Manager or Transportation Manager with any comments regarding the proposed exception prior to making a recommendation regarding approval of the exception.

Approved design exceptions **shall** be noted, with the approval date, in the lower right corner of the title sheet.

Original signed by Jeff C. Jones
Jeff C. Jones, Civil Engineering Director
Design Division

July 18, 2007
JCJ:MA:ma
Attachment



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NASHVILLE, TENNESSEE 37243-0348**

(DESIGN EXCEPTION REQUEST AND JUSTIFICATION FORM)

TO: _____, Division Administrator, FHWA (Exceptions requiring FHWA approval)
Director, Design Division, TDOT (All other exceptions)

FROM: _____, Director, Design Division, TDOT (Exceptions requiring FHWA approval)
C. E. Manager 1 or Transportation Manager 1, Design, TDOT
Highest Local Official Responsible for the Project, Title (Locally
Developed Projects)

DATE: _____

SUBJECT: Design Exception Request
Project No. _____
Pin No. _____
Project Description: _____

CONTROLLING CRITERIA FOR WHICH EXCEPTION IS REQUESTED:

Design Speed <input type="checkbox"/>	Lane Width <input type="checkbox"/>	Shoulder Width <input type="checkbox"/>	Grades <input type="checkbox"/>
Horizontal Alignment <input type="checkbox"/>	Vertical Alignment <input type="checkbox"/>	Cross Slopes <input type="checkbox"/>	
Stopping Sight Distance <input type="checkbox"/>	Superelevation <input type="checkbox"/>	Bridge Width <input type="checkbox"/>	
Horizontal Clearance <input type="checkbox"/>	Vertical Clearance <input type="checkbox"/>	Structural Capacity <input type="checkbox"/>	

(other than clear zone)

DESIGN EXCEPTION REQUESTED:

(Note: List location and controlling element of the feature an exception is requested. Example:
1) Station 4+50, 30 mph horizontal curve 2) Station 10+00 to 13+00, 11ft. lane width instead of
12ft. 3) 20 mph vertical alignment (Sag K=24) instead of 40 mph)

DESIGN DATA:

Highway Functional Classification: _____
Standard for the Above Classification: _____
Existing Posted Speed: _____ Proposed Posted Speed: _____
Type of Terrain: _____ Rural or Urban Area: _____

Traffic Data: ADT (20 _____): _____ D: _____
ADT (20 _____): _____ T: _____
DHV: _____ V: _____

**Figure 3-1
Design Exception Request and Justification Form**

(For factors not applicable to the design exception mark N/A)

DESIGN FEATURES:

	Standard	Existing	Proposed	N/A
Cross Slope:	_____	_____	_____	_____
Superelevation:	_____	_____	_____	_____
Minimum Radius of Curve:	_____	_____	_____	_____
Minimum Stopping Sight Distance:	_____	_____	_____	_____
Minimum "K" Value for Crest Vertical Curve:	_____	_____	_____	_____
Minimum "K" Value for Sag Vertical Curve:	_____	_____	_____	_____
Maximum Grade:	_____	_____	_____	_____

ROADWAY TYPICAL SECTION:

	Standard	Existing	Proposed	N/A
Horizontal Clearance: (other than the clear zone)	_____	_____	_____	_____
Shoulder Widths:	_____	_____	_____	_____
Outside Shoulders:	_____	_____	_____	_____
Inside Shoulders:	_____	_____	_____	_____
Lane Width:	_____	_____	_____	_____

BRIDGE FEATURES:

	Standard	Existing	Proposed	N/A
Traffic Lane Widths:	_____	_____	_____	_____
Outside Shoulder Widths:	_____	_____	_____	_____
Inside Shoulder Widths:	_____	_____	_____	_____
Load Capacity or Sufficiency Rating:	_____	_____	_____	_____
Vertical Clearance:	_____	_____	_____	_____
To Waterway:	_____	_____	_____	_____
To Other Highway:	_____	_____	_____	_____
To Railroad:	_____	_____	_____	_____

**Figure 3-1
Design Exception Request and Justification Form**

FACTORS CONSIDERED:

(Note: Each of the following factors shall be addressed in narrative form. If a factor is not applicable, or data is not available, only the appropriate box needs to be checked. For factors that are not a consideration, justification should be included.)

- 1) **Accident experience or data**
Data Available No Data Available Not Applicable

- 2) **Effect of the variance from the design standards on safety and operation of the facility**
Effect considered No effect on the facility Not Applicable

- 3) **Safety mitigation measures considered and provided**
Measures provided Measures not justified Not Applicable

- 4) **Compatibility of the design and operation with adjacent sections**
Considered Not a Consideration Not Applicable

- 5) **Comparative cost of the full standard versus the lower design proposed**
Considered Not a Consideration Not Applicable

- 6) **Long term effect of the reduced design as compared to the full standard**
Considered Not a Consideration Not Applicable

- 7) **Difficulty obtaining the full standard such as right-of-way restriction, environmental impacts, etc.**
Considered Not a Consideration Not Applicable

- 8) **Capacity reductions or operational reductions caused by the design**
Considered Not a Consideration Not Applicable

- 9) **Level of service for the full standard versus the proposed design**
Considered Not a Consideration Not Applicable

- 10) **Cumulative effect of more than one standard that is being reduced**
Considered Not a Consideration Not Applicable

- 11) **Possibility of improving or achieving the full standard feature in the future**
Applicable Not Applicable Not on the state highway system

Figure 3-1
Design Exception Request and Justification Form

DESIGN EXCEPTION AND JUSTIFICATION:

(Note: This section shall include a narrative description of the design exception request and includes a recommendation for approval)

ATTACHMENTS:

(Note: Include appropriate items such as plan prints, accident data, estimates, sketches, photos, etc.)

DESIGN EXCEPTION REVIEW COMMITTEE RECOMMENDATION FOR APPROVAL:

_____, Assistant Director, Design Division, Region 1

_____, Assistant Director, Design Division, Region 2

_____, Assistant Director, Design Division, Region 3

_____, Assistant Director, Design Division, Region 4

Comments Attached

APPROVED: _____
Division Administrator, FHWA
(Director, Design Division, TDOT)

Date

cc: Quality Assurance Section

**Figure 3-1
Design Exception Request and Justification Form**