



U.S. Department
of Transportation
**Federal Highway
Administration**

Memorandum

Subject: **INFORMATION:** Proposed Revision of
Thirteen Controlling Criteria for Design and New
Guidance on Documentation for Design Exceptions

Date: October 7, 2015

In Reply Refer To:
HIPA-20

From: 
Thomas D. Everett
Director, Office of Program Administration

To: Director of Field Services
Division Administrators
Director of Technical Services
Federal Lands Highway Division Engineers

This memorandum is to notify you that the attached Notice containing proposed revisions to the Thirteen Controlling Criteria for Design was published in the Federal Register on October 7th. The Notice also clarifies when design exceptions are required and the documentation that is expected to support such requests. FHWA invites comments on the Notice prior to December 7, 2015. Please share this information with your State Transportation Agency (STA) and other partners, including local governments, as it would impact all projects on the National Highway System (NHS).

An *internal FHWA only* webinar is scheduled for October 15 from 1:00pm – 2:00pm eastern time. We will outline the proposed changes at that time and solicit feedback from your offices. Please go to <https://connectdot.connectsolutions.com/preconstructionteam/> to access the webinar.

Background

FHWA adopted Thirteen Controlling Design Criteria in 1985. These are: design speed, lane width, shoulder width, bridge width, horizontal alignment, superelevation, vertical alignment, grade, stopping sight distance, cross slope, vertical clearance, horizontal clearance, and structural capacity. The criteria are applied to all NHS projects, regardless of roadway type or context. Design exceptions are required when any of these controlling criteria are not met. Research since 1985, culminating in publication of both the Transportation Research Board Highway Capacity Manual and the American Association of State Highway and Transportation Officials Highway Safety Manual, developed greater knowledge of the traffic operational and safety effects of the controlling criteria than was available when the criteria were first established.

Consistent with FHWA's efforts regarding performance-based practical design and to ensure that design exceptions are required only for criteria with the greatest safety or operational

impact, the Office of Infrastructure worked with the Office of Operations, the Office of Safety and the Resource Center to propose revisions to the controlling criteria based on the findings of National Cooperative Highway Research Program Report 783¹ and FHWA experience. On rural roadways, freeways, and high-speed urban/suburban roadways, the research found a strong connection to safety and operations for some of the criteria but not for others. Based on the findings of this report and FHWA experience, the following proposed changes to the controlling criteria are outlined in the Notice:

- Three criteria are proposed to be eliminated: bridge width, vertical alignment, and horizontal clearance (lateral offset to obstruction).
- Three criteria are proposed to be renamed:
 - Horizontal Alignment becomes Horizontal Curve Radius
 - Grade becomes Maximum Grade to eliminate Minimum Grade as a controlling criterion
 - Structural Capacity to be renamed Design Loading Structural Capacity
- Design Speed and Design Loading Structural Capacity are proposed to be retained as controlling criteria for all NHS roadways.
- The following criteria are proposed to be considered controlling only on high-speed (design speed \geq 50mph) NHS roads: lane width, shoulder width, horizontal curve radius, superelevation, stopping sight distance, maximum grade, cross slope, and vertical clearance.

As codified in 23 CFR 625.3(f), and in accordance with the delegated authority provided by FHWA Order M1100.1A, exceptions may be approved on a project basis for designs that do not conform to the minimum or limiting criteria set forth in the standards, policies, and standard specifications adopted in 23 CFR 625. Formal design exceptions, subject to approval by FHWA, or on behalf of FHWA if a STA has assumed the responsibility through a Stewardship and Oversight agreement, are required for projects on the NHS only when the controlling criteria are not met. The FHWA has not previously issued guidance regarding the level of documentation expected for design exceptions. This notice proposes to set forth such guidance.

Please share the Notice broadly and encourage interested parties to submit comments to the docket at www.regulations.gov.

Should you have any questions, please contact Michael Matzke at (202) 366-4658 or Elizabeth Hilton at (512) 536-5970.

Attachment: Federal Register Notice dated October 7, 2015

¹ NCHRP Report 783 “Evaluation of the 13 Controlling Criteria for Geometric Design” (2014)