

Memorandum

DEPARTMENT OF TRANSPORTATION
Project Development Branch
Standards & Specifications Unit
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Date: June 20, 2005

To: Users of the CDOT *Roadway Design Guide*

From: 
Mitch Kumar, Project Development Branch

Subject: **2005 CDOT *Roadway Design Guide***

This is formal issuance of the 2005 CDOT *Roadway Design Guide* which supersedes the 1995 guide. This issuance consists of the primary chapters (1 through 10) of the guide, which may be accessed and printed from the Design and Construction Project Support page of the CDOT web site:

<http://www.dot.state.co.us/DesignSupport/>

Please begin using the 2005 guide immediately. These chapters were developed by a team of CDOT and FHWA Engineers in conformance with the 2004 edition of AASHTO's *A Policy on Geometric Design of Highways and Streets (PGDHS)*. The team will continue to work on auxiliary chapters which will be posted on the CDOT web site as they are completed. Once the auxiliary chapters are complete a printed version of the entire guide will be issued.

Please see the attached communication from FHWA authorizing CDOT to use either the 2001 or the 2004 edition of the *PGDHS* in designing its roadway construction projects. Information on the changes to the *PGDHS* can be found with the 2005 Design Guide at the web site identified above.

cc: Larry Brinck
Area Engineers
FHWA: Chris Horn
Region Program Engineers via email
Region Resident Engineers via email
File



U.S. Department
of Transportation

**Federal Highway
Administration**

12300 W. Dakota Ave., Ste. 180
Lakewood, CO 80228

March 9, 2005

In Reply Refer To:
HDA-CO

Colorado Federal Aid Division

Mr. Thomas E. Norton
Executive Director
Colorado Department of Transportation
4201 E. Arkansas Avenue
Denver, Colorado 80222

Attn: Mr. Craig Siracusa

Dear Mr. Siracusa:

SUBJECT: 2004 AASHTO Green Book

AASHTO has recently issued the Fifth Edition of *A Policy on Geometric Design of Highways and Streets* (2004 Green Book). The major change in the 2004 Green Book compared to the previous edition, known as the 2001 Green Book, is revision of the superelevation section. The superelevation revisions and other minor changes are described below. It has been determined that the 2004 Green Book is in substantial conformance with the criteria in the adopted 2001 Green Book. The Colorado Department of Transportation is therefore allowed to use either the 2001 or 2004 Green Book as the design standard for projects on the NHS.

Changes in 2004 Green Book (as compared with 2001 Green Book)

1. The superelevation section has been revised as follows:
 - The topics in the section have been reworded and rearranged.
 - The superelevation tables have been reformatted. In the 2001 Green Book the superelevation tables were formatted with radius in the left column and design speed across the top, enabling the user with these two pieces of information to find the recommended superelevation value in the body of the table. In the 2004 Green Book the superelevation tables are formatted with superelevation in the left column and design speed across the top, enabling the user to enter from the top with design speed, proceed down a column in the body of the table to curve radius, and find a recommended superelevation value in the left column.
 - The length of superelevation runoff has been moved from the superelevation table to a separate table in the discussion of transition design controls.



- For low speed rural design (≤ 45 mph) the 2004 Green Book incorporates different friction factors which in turn results in slightly different superelevation rates. For example, given a design speed of 25 mph, radius of curve 500 feet, and maximum
 - superelevation rate of 8%, the superelevation rate found in the 2004 Green Book would be 5.0%, compared to 5.3% in the 2001 Green Book. For high speed design (≥ 50 mph), the superelevation rates in the 2004 Green Book are almost identical to those in the 2001 Green Book.
 - For low speed urban streets, use of superelevation is optional, as it was in the 2001 Green Book. Where superelevation is used, the 2004 Green Book presents the superelevation rates in a new table and revised graph. The change in superelevation rates is similar to those for rural facilities.
2. The terminology for M, middle ordinate of a horizontal curve, has been changed to HSO, horizontal sightline offset, to avoid conflict with a surveying term using M. This is a straight substitution of terms, no other changes were made in the text.
 3. The technical corrections noted in the first and second printings of the 2001 Green Book have been incorporated in the 2004 Green Book. Those using the 2001 Green Book can find these technical corrections posted at <http://downloads.transportation.org/Errata-GDHS-4.pdf>.

If you have any questions related to the use of the 2004 Green Book, please contact Mr. Chris Horn, of this office, at (720) 963-3017.

Sincerely yours,



For David A. Nicol
Division Administrator

cc:

Larry Brink, CDOT
Randy Furst, CDOT
Paul Jesaitis, CDOT
Mitch Kumar, CDOT