U.S. Department
of Transportation
Federal Highway Administration

1200 New Jersey Avenue, SE
Washington, D.C. 20590

June 2, 2010

In Reply Refer to:
HOTO-1

Kenneth Newman, P.E.
Assistant Township Engineer
475 Valley Road
Wayne Township, NJ 07470

Dear Mr. Newman:

Thank you for your March 1 inquiry by e-mail regarding the requirements in the 2009 Manual on Uniform Traffic Control Devices (MUTCD) for the posting of horizontal alignment warning signs and advisory speed plaques, specifically in regard to the use of 85th percentile and prevailing speed criteria.

Your question pertains to the application of Table 2C-5 in regard to the requirements of Paragraph 2 of Section 2C.06 (Horizontal Alignment Warning Signs), which states:

> **Standard:**
>
> **In advance of horizontal curves on freeways, on expressways, and on roadways with more than 1,000 AADT that are functionally classified as arterials or collectors, horizontal alignment warning signs shall be used in accordance with Table 2C-5 based on the speed differential between the roadway's posted or statutory speed limit or 85th-percentile speed, whichever is higher, or the prevailing speed on the approach to the curve, and the horizontal curve's advisory speed.** (Emphasis added)

You asked how to determine the exact meaning of "prevailing speed," how to apply this paragraph if 85th percentile speed data is not available, and how to apply this paragraph for situations where the 85th percentile speed exceeds the posted speed limit.

Although not defined in the 2009 MUTCD, the term "prevailing speed," as used by some State Departments of Transportation and in the context of Section 2C.06, is taken to be the average of the 85th percentile speed and the upper limit of the 10 mph pace speed.

We recognize that 85th percentile speeds are often not available for the tangent sections of roadways approaching many horizontal curves. Consequently, while we do encourage the collection of speed data for these locations prior to the posting of an advisory speed, we recognize that it is unrealistic that such data be required to be collected, in advance, for every curve where Table 2C-5 is applied.

Accordingly, it is our official interpretation of Paragraph 2 of Section 2C.06 that highway agencies have the flexibility to determine, based on engineering judgment, which speed value to use for the tangent approach to a horizontal curve (posted or statutory speed limit, 85th percentile speed, or prevailing speed) in applying Table 2C-5. When it is determined that a curve warning sign with an advisory speed plaque will be installed for an approach to a curve, the decision as to which speed value to use shall be documented in the engineering study that is required in Section 2C.08 for the determination of the advisory speed.

Additionally, for purposes of clarity for MUTCD users in applying Table 2C-5, the following items should also be noted:

1. The provisions of Table 2C-5 that recommend or require the use of certain signs or plaques are intended to apply only where the advisory speed for the curve is less than the speed on the tangent approach to the curve.
2. Where an advisory speed determined in accordance with Section 2C.08 equals or exceeds the posted/statutory speed limit, the decision to post any of the horizontal alignment warning signs, such as advisory speed plaques or chevrons or exit/ramp speed signs, is optional based upon engineering judgment.
3. The column heading of "Difference Between Speed Limit and Advisory Speed" means the difference in speed value between the speed (posted or statutory speed limit, 85th percentile speed, or prevailing speed) on the tangent approach to the curve and the advisory speed for the curve.

For recordkeeping purposes, we have assigned the following official interpretation number and title: "2(09)-2 (I) – Determination of Speed Differential for Curve Warning Signs and Plaques." Please refer to this number in any future correspondence regarding this topic.

If you have further questions, please contact Mr. Fred Ranck at 708-283-3545 or Mr. Kevin Sylvester at 202-366-2161.

Thank you for your interest in improving the clarity of the provisions contained in the MUTCD.

Sincerely yours,

Mark R. Kehrli
Director, Office of Transportation Operations