



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

400 Seventh St., S.W.
Washington, D.C. 20590

January 26, 2007

In Reply Refer To: HOTO-1

Mr. Clyde Neel
Engineering Manager
Naztec, Inc.
820 Park Two Drive
Sugar Land, TX 77479

Dear Mr. Neel:

Thank you for your January 9, 2007, letter requesting an official interpretation of Section 4D.09 of the Manual on Uniform Traffic Control Devices (MUTCD) and our Interim Approval IA-10 dated March 20, 2006, regarding the display of a steady yellow arrow indication for the change interval following a flashing yellow arrow (FYA) for a permissive left-turn movement.

You have correctly pointed out that our IA-10 memorandum states that the design and operational requirements in that memorandum "shall take precedence over any conflicting provisions of existing Section 4D.06 of the 2003 MUTCD for the approach on which FYA is displayed" but that it does not exempt FYA operations from the provisions of Section 4D.09. That section states that a steady yellow arrow shall not be displayed when any conflicting vehicular movement has a green or yellow signal indication. It was fully intended that FYA operations be exempted from that provision of Section 4D.09 and the omission of that exemption from the IA-10 memorandum was merely an inadvertent oversight. The reasons we intend the steady yellow arrow to be the change interval display following the FYA, during the display of steady yellow to opposing through traffic, are as follows.

The comprehensive National Cooperative Highway Research Program (NCHRP) research project that led to our Interim Approval of FYA indicated that the use of a steady yellow arrow to clear a FYA permissive left-turn indication during an interval in which a steady circular yellow is displayed to the opposing through traffic did not pose problems for drivers. This is likely because drivers observe other visual clues that exist at the intersection, such as what the other signals are displaying and what the other traffic is doing at the times the steady yellow arrow is displayed. Most drivers at or approaching the intersection are not suddenly in a circumstance where the first thing they see is a steady yellow arrow during which they must suddenly decide what action is appropriate on their



part. In most cases, drivers have the opportunity to observe the previous signal indication as well as the movements of opposing vehicles. The field experience with the FYA to date at the more than 200 intersections where it has been operating has not shown any problem with the use of two steady yellow arrow intervals in the signal sequence.

A steady yellow indication (circular or arrow) does not provide any information about whether or not a given traffic movement is "protected." As noted in Section 4D.04, traffic facing a steady circular yellow or steady yellow arrow signal indication is "thereby warned that the related green movement is being terminated or that a red signal indication will be exhibited immediately thereafter when vehicular traffic shall not enter the intersection." Therefore, the use of a steady yellow arrow indication to clear the FYA permissive left-turn indication during an interval in which a steady circular yellow is displayed to the opposing through traffic does not conflict with or change the meaning of a steady yellow indication.

The Signals Technical Committee of the National Committee on Uniform Traffic Control Devices (NCUTCD) considered this issue in detail as a part of their review of the NCHRP research on FYA, which led to the subsequent NCUTCD recommendation to the Federal Highway Administration (FHWA) that the MUTCD be revised to include provisions for the optional use of the FYA for permissive left-turn movements. That recommendation includes a modification to Section 4D.05 (which currently prohibits the display of a steady yellow arrow when any conflicting vehicular movement has a green or yellow signal indication) to specifically exempt from the prohibition the use of a steady yellow arrow following the FYA during an interval in which a circular yellow indication is displayed to the opposing through traffic. The NCUTCD recommendations did not address the similar language in Section 4D.09, but subsequent discussions have confirmed that this was an inadvertent oversight. The FHWA intends to include the NCUTCD's recommendations for FYA, including modifications to Sections 4D.05 and 4D.09, in the planned rulemaking for the next edition of the MUTCD. We will give consideration to including figures or diagrams to make the FYA sequence of indications as clear as possible, as you have suggested.

Your letter also discusses the issue of terminating a FYA display upon the initiation of a preemption sequence in which the opposing approach is to continue moving on a circular green display. There is no requirement that the permissive left-turn movement must be terminated in response to a preemption call for the opposing approach. As in the so-called "Dallas phasing," the permissive left turn could continue to be permitted to turn (with a FYA display) based on gaps in the oncoming traffic and yielding to any oncoming vehicle (whether emergency or not). This is a better alternative than terminating the permissive left turn to provide or maintain an opposing through movement, because that creates what is called the "yellow trap." Under the provisions of Section 4D.05, an operating agency could determine that this trap condition is absolutely necessary for a given location, but would then be required to install a W25-2 "Oncoming Traffic May Have Extended Green" sign.

I hope that this information clarifies the intention of FHWA that the proper display for the change interval following the FYA is a steady yellow arrow. Thank you for writing on this subject. If you have any questions, please contact Mr. Scott Wainwright of our staff by e-mail at scott.wainwright@dot.gov or by telephone at 202-366-0857. Please note that we have assigned your request the following official interpretation number and title: "4-320(I)—Steady Yellow Arrow After Flashing Yellow Arrow." Please refer to this number in any future correspondence.

Sincerely yours,

/s/ *Anthony T. Furst*

Anthony T. Furst
Acting Director, Office of Transportation
Operations

FHWA:HOTO-1:SWainwright:ds:60857:1-16-07

cc: HOTO-1 HOTO-1(HKalla/SWainwright)

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