U.S. Department
of Transportation
Federal Highway Administration

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

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In Reply Refer To:
HOTO-1

Joe Olson, P.E.
Traffic Engineer
City of Fort Collins
P.O. Box 580
Fort Collins, CO 80522-0580

Dear Mr. Olson:

Thank you for your June 24 letter requesting an interpretation of various sections of the 2009 edition of the MUTCD. You asked six specific questions, for which we provide our answers and/or interpretations of the applicable MUTCD provisions below:

1. Do the definition of a traffic control signal in Section 1A.13 and Paragraph 4 of Section 8C.09, when taken together, recommend that a Pedestrian Hybrid Beacon be provided with preemption if it is located within 200 feet of a highway-rail grade crossing?

   FHWA response: A Hybrid Beacon is defined in Section 1A.13 as a "special type of beacon" rather than a special type of traffic control signal. Therefore, neither a Pedestrian Hybrid Beacon (PHB) nor an Emergency-Vehicle Hybrid Beacon (EVHB) is considered to be a traffic control signal. Accordingly, the Guidance in Paragraph 4 of Section 8C.09 technically does not apply to a PHB or EVHB. However, because both of these types of hybrid beacons function somewhat similar to a traffic control signal once the hybrid beacon has been activated from a dark condition by a pedestrian or emergency vehicle actuation, stopping vehicular traffic for a certain time interval, the operation of a hybrid beacon can create safety concerns if it backs up traffic across the highway-rail grade crossing. Preemption as discussed in Section 8C.09 is intended to ameliorate such concerns. Therefore, it is our interpretation that hybrid beacons located within 200 feet of a highway-rail grade crossing equipped with a flashing-light signal system should be provided with preemption.

2. Is a "flashing-light signal" used at a highway-rail grade crossing in accordance with Part 8 of the MUTCD considered to be a traffic control signal, in which case its display of flashing red indications simultaneously with the display of circular yellow or circular green signal

indications by an adjacent traffic control signal would be in violation of Paragraph 11 of Section 4D.05?

FHWA response: Flashing-light signals are defined in Section 1A.13 as "warning devices" and, as such, they are not considered to be traffic control signals. Therefore, the operation of such red flashing-light signals at a grade crossing simultaneously with the circular green or circular yellow indications of an adjacent traffic control signal is not a violation of paragraph 11 of Section 4D.05.

3. Is a pedestrian-actuated flashing yellow beacon considered to be a traffic control signal, in which case its flashing yellow indications displayed simultaneously with the display of flashing red signal indications by an adjacent flashing-light signal at a grade crossing would be in violation of Paragraph 11 of Section 4D.05?

   FHWA response: A flashing yellow beacon, deployed as a Warning Beacon, Intersection Control Beacon, or Speed Limit Sign Beacon, is a beacon and is not a traffic control signal, because it does not alternately direct traffic to stop and permit traffic to proceed. A flashing yellow beacon is merely a warning device. Also, our response to your Question 2 above explained that flashing-light signals at grade crossings are also not considered to be traffic control signals. Therefore, the operation of a flashing yellow beacon adjacent to a grade crossing simultaneously with the display of the flashing red indications of an adjacent flashing-light signal is not a violation of Paragraph 11 of Section 4D.05.

4. Would a PHB displaying flashing yellow or steady yellow indications adjacent to a grade crossing with an activated flashing-light signal system (both visible to an approaching road user) be a violation of Paragraph 11 of Section 4D.05?

   FHWA response: As noted in our response to Question 1 above, PHBs are not considered to be traffic control signals. As noted in our response to Question 2 above, "flashing-light signals" are "warning devices" and, as such, they are not considered to be traffic control signals. Therefore, the operation of flashing-light signals (or the operation of flashing red lights on a gate) at a grade crossing simultaneously with the circular yellow indications of an adjacent PHB or EVHB is not a violation of Paragraph 11 of Section 4D.05.

5. Other than Section 8C.09 and Section 4C.27, is there anything else in the MUTCD that would preclude or limit the operation of any of the following directly adjacent to a grade crossing equipped with a flashing-light signal system: a) a traffic control signal, b) a PHB, or c) a flashing yellow beacon?

   FHWA response: Each of the cases is discussed individually as follows:

   a) Only the provisions of Sections 8C.09 and 4D.27 would impact the operation of a traffic control signal adjacent to a grade crossing with flashing-light signals.

b) There are no restrictions in Sections 8C.09, 4D.27, or anywhere else in the MUTCD that preclude or limit the operation of a flashing yellow beacon directly adjacent to a grade crossing with flashing-light signals.

c) See our response to Question 1 above in regard to the applicability of Paragraph 4 of Section 8C.09 to PHBs and EVHBs. Section 4D.27 does not in itself require or recommend preemption (it is Section 8C.09 where the provision of preemption is discussed). However, if preemption of a PHB or EVHB is provided at a given location, then the provisions of Section 4D.27 concerning sequences, transitions, and other aspects of the preemption operation would apply. The reason Section 4D.27 applies in such cases is that, even though hybrid beacons are defined as beacons rather than traffic control signals, Paragraph 1 of Section 4F.02 requires PHBs to comply with the provisions of Chapter 4D, and Paragraph 3 of Section 4G.04 requires compliance of EVHBs with applicable provisions elsewhere in the MUTCD, including Chapter 4D.

6. Is there anything in Chapter 4D that precludes the use of a protected right-turn green arrow simultaneously with a permissive left-turn (circular green or flashing yellow arrow) on the opposite approach?

   FHWA response: Section 4D.05, Paragraph 3, Item F.1 states that a steady GREEN ARROW signal indication "shall be displayed only to allow vehicular movements, in the direction indicated, that are not in conflict with other vehicles moving on a green or yellow signal indication and are not in conflict with pedestrians crossing in compliance with a WALKING PERSON (symbolizing WALK) or flashing UPRAISED HAND (symbolizing DONT WALK) signal indication." It further states that "vehicles departing in the same direction shall not be considered in conflict if, for each turn lane with moving traffic, there is a separate departing lane, and pavement markings or raised channelization clearly indicate which departure lane to use." This language therefore precludes the simultaneous display of a green right-turn arrow for one approach and either a steady circular green or a flashing yellow left-turn arrow (and also during the steady yellow change interval that follows either the circular green or flashing yellow arrow) for a permissive left-turn movement on the opposing approach, unless both the right-turn and opposing left-turn movements have separate departing lanes into which to turn and pavement markings or raised channelization clearly indicate which departure lane to use.

Thank you for writing on these subjects. We hope that our interpretations answer your questions. For the next edition of the MUTCD, we will consider proposing revisions to the Section 1A.13 definitions of "beacon," "highway traffic signal," and "traffic control signal" to more clearly and accurately reflect the intended application of provisions such as those you questioned.

If you have any questions, please contact Mr. Wainwright 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(09)-2(I)—Hybrid Beacons Adjacent to Grade Crossings." Please refer to this number in any future correspondence regarding this issue.

Sincerely yours,

Mark R. Kehrli
Director, Office of Transportation Operations