

Federal Highway Administration
400 Seventh Street SW
Washington, DC 20590

March 20, 2000

Refer to: HOTO-1

Mr. G. Bruce Conner
Engineering Director
County of Union
2325 South Avenue
Scotch Plains, NJ 07076

Dear Mr. Conner:

We have reviewed your February 18 letter regarding your request for approval to experiment within-roadway warning lights at crosswalks and offer the following comments. As stated in Section 1A-6 of the Manual on Uniform Traffic Control Devices (MUTCD), please address the following in your evaluation plan:

1. Please confirm the in-roadway lights you have selected are bi-directional. We believe that a minimum of five lights should be used on typical cross sections as follows: Right edge of travel way; center of right lane; centerline; center of left lane; left edge of travel way. However, if the lights are bi-directional, your proposed configuration of lights would be adequate.
2. Please include an agreement to restore the experiment site to a state complying with the provisions of the MUTCD should at any time it be determined that significant safety hazards are directly or indirectly attributed to the experimentation.
3. Please indicate what and how much subjective data will be collected. The additional information we need is described below.
 - As a minimum, collect before and after spot speed data for 100 free-flowing vehicles both at the crosswalk and either 50', 100', or 200' before the crosswalk, according to the methodology in the ITE Traffic Engineering Handbook. This should be collected both during the daytime and at nighttime. It is best to record speeds for single vehicles rather than platoons.
 - As a minimum, collect before and after volume data for pedestrians and vehicles three to four times a year. This should be an hourly count.

- As a minimum, observe the behavior of 100 pedestrians in the crosswalk.

Note how the pedestrian behaves in the crosswalk. Preferably, also record their approximate age range and whether they are male or female. (See enclosed sample pedestrian behavior form.)

- As a minimum, collect before and after motorist behavior data for 100 vehicles. Did the motorists yield to the pedestrian in the crosswalk, slow down 50-100 feet before the crosswalk, or did they disregard the pedestrian? The main thing we're looking for is the percentage of vehicles that yielded to pedestrians in the crosswalk before and after the devices was installed. (See enclosed sample motorist behavior form.)
- It is best to collect the speed, volume and pedestrian behavior data at the same time, although all three studies won't end at the same time.
- You mentioned you will be evaluating the effectiveness of this experiment by using pedestrian and motorist surveys. Surveys are not required. However, if you wish to use a survey, please make sure the questions are asked in a manner where that will indicate whether the pedestrians and motorists understand what the in-roadway warning lights mean. We suggest you phrase questions so the pedestrian or motorist has to explain or select the meaning of the warning lights (multiple choice answers). For example: What do the flashing lights mean? Do you cross (or drive) any differently with the in-roadway flashing lights than with only pavement markings to delineate the crosswalk?

4. We also request that you include some safety assessment such as near misses, traffic conflicts, accidents, etc. Please specify.
5. Please include an agreement to submit your final report within 3 months of completion of the experiment to the FHWA, Office of Transportation Operations.

In addition to the requirements found in Section 1A.6 of the MUTCD, we offer the following comment:

- Your experimentation with in-roadway warning lights at crosswalks should include the installation of amber raised pavement markers at a separate crossing for comparison purposes.

Your request to experiment with the in-roadway flashing warning lights for crosswalks will be approved, contingent on receipt and review of a more detailed evaluation plan including the items requested above.

For future reference purposes, we have assigned the following official experimentation number

and title to your request: "In-Roadway Warning Lights At Crosswalks - IV-178(Ex)." Please refer to this number in future correspondence.

If we can be of further assistance, please contact Ms. Louisa M. Ward on 202-366-4372.

Sincerely yours,

Jeffrey A. Lindley
Acting Director, Office of Transportation
Operations

Enclosures