

U.S. Department of Transportation
Federal Highway Administration
400 Seventh St SW
Washington, DC 20590

Refer to: HOTO-1

February 17, 2000

Mr. Mark Poch
Traffic Operations Engineer
City of Bellevue
Transportation Department
P.O. Box 90012
Bellevue, WA 98009-9012

Dear Mr. Poch:

We have reviewed your January 24 letter regarding your request for approval to experiment with in-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 the evaluation plan:

1. Provide an illustration of the location where this device will be tested showing the placement and number of devices. 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. With a median, your placement will differ.
2. Please clarify estimated starting and ending dates. The devices may not remain in place at the conclusion of the experiment unless they are included in the revised MUTCD (Final Rule to be published in December 2000).
3. Please clarify how the field observation data will be collected, e.g., by observers, using video, etc.
4. Please indicate what subjective data will be collected, who and how many subjects, and how these data will be collected. In your letter you described your before study. Your study only collected part of the motorist behavior we are seeking. 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.

6. In your before study you indicated the time periods when you collected the motorist behavior data. In your revised evaluation plan, please note when the additional before and after field data will be collected, e.g., day, night, peak, off-peak, week, weekend, etc., and reasons for selecting those times (example: largest pedestrian/vehicle volume).

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: IV-173(Ex) - "In-Roadway Warning Lights At Crosswalks." 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