

ITS DIRECTIONAL ADVANCE PEDESTRIAN WARNING
DISPLAY FOR MOTORISTS:
EVALUATION AT AN UNSIGNALIZED CROSSWALK

A REQUEST TO EXPERIMENT

Submitted to:

Federal Highway Administration
Office of Traffic Operations

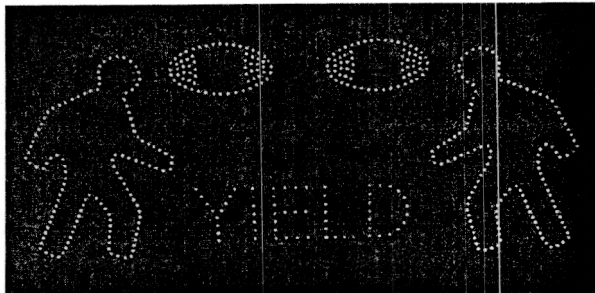
Submitted by:

Florida Department of Transportation

Dec 14, 2004

Other Surrogate Measures). The experimental device used in this research will consist of a pair of yellow LED animated 'eyes' sandwiched between two yellow LED pedestrian symbols. A yellow LED pedestrian symbol with the pedestrian approaching from the right will appear on the right side of the eyes, and a mirror image pedestrian symbol approaching from the left will appear on the left side of the eyes. The text message YIELD will be displayed in red (615 nm) LEDs whenever a pedestrian is crossing to reinforce the action legally required of the driver. A yield symbol may be added below the eyes. The sign layout is illustrated in Figure 1. The experimental sign will measure 36 inches high by 72 inches wide. The 'eyes' are populated with yellow (590 nm) LEDs and consist of two yellow eyes with yellow eyeballs that scan left and right at a rate of one cycle per second. The pedestrian symbol display is populated with yellow (590 nm) LEDs and consists of the standard pedestrian symbol specified in the MUTCD. The signs will be mounted on mast arms over the lane line in each direction with a downward angle of 5 degrees.

The pedestrian symbol displays will use an outline display for the signs used at the first three St. Petersburg sites. The second three sites will initially employ an outline of the pedestrian figures, and then will be changed to solid pedestrian figures. We will alternate between solid and outline figures in order to determine which configuration has the greatest influence on driver yielding behavior. Subsequent signs will employ the most effective configuration.



The device will be used in conjunction with directional microwave sensors or push buttons. When a pedestrian enters the crosswalk from the driver's right, the pedestrian symbol on the driver's right will be illuminated along with the animated eyes display. When a pedestrian enters the crosswalk from the driver's left, the pedestrian symbol on the left of the sign will be illuminated along with the animated eyes display. If pedestrians enter from both sides of the crosswalk, both pedestrian symbols will be illuminated along with the animated eyes display. The display will continue to operate until the pedestrian(s) have finished crossing. This pedestrian detection technology has been found to be reliable in a recent FHWA study conducted by Hughes, Huang, Zegeer, and Cynecki (in press) and worked reasonably well in the city of St. Petersburg.

RELATED FINDINGS

significant safety hazards are directly or indirectly attributable to the experiment.

AGREEMENT FOR SEMIANNUAL PROGRESS REPORTS

Throughout the project, we will provide to FHWA semi-annual reports and intermediate findings on the project's status. At the conclusion of the project, a final report summarizing our findings will be provided to FHWA. This report will be completed within three months of the project end.