INSURANCE INSTITUTE
FOR HIGHWAY SAFETY

August 19, 2002

The Honorable Mary E. Peters
Administrator
Federal Highway Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

National Standards for Traffic Control Devices: Manual on Uniform Traffic Control Devices for Streets and Highways; Revision Docket No. FHWA 2001-11159

Dear Ms. Peters:

The Insurance Institute for Highway Safety commends the Federal Highway Administration (FHWA) for proposing changes to the *Manual of Uniform Traffic Control Devices* (MUTCD) concerning supplemental plaques for right turn on red (RTOR) and signs for photo enforcement. However, we disagree with some of the specifics of the proposed changes and provide recommendations based on our research.

Right Turn on Red
FHWA is proposing to add to the MUTCD supplemental plaques for use in conjunction with standard *NO RIGHT TURN ON RED* signs. The plaques would specify either times of day when RTOR is prohibited or display the message *WHEN PEDESTRIANS ARE PRESENT* below the standard *NO RIGHT TURN ON RED* sign. This would allow greater flexibility to restrict turning on red during specified hours or when pedestrians are present. Such plaques could be useful in, for example, downtown settings where pedestrian activity or frequent vehicle conflicts may warrant RTOR restrictions during specified daytime hours, whereas traffic conditions at night or on weekends may not warrant RTOR restrictions.

The types of supplemental plaques proposed by FHWA were the subject of a recent Institute study in which 15 intersections in Arlington, Virginia, were randomly assigned to one of three groups: one where RTOR was prohibited during specified hours, one where RTOR was prohibited when pedestrians were present, and a control group where RTOR continued to be allowed at all times (Retting et al., 2002). To judge effectiveness, researchers noted the number of drivers who failed to stop before turning and the number who stopped at designated stop lines. The number of pedestrians yielding to turning vehicles also was noted. Such yielding increases the risk that a pedestrian still will be in the crosswalk at the end of the allotted crossing time, placing older people who walk more slowly at even greater risk. The study found that signs prohibiting RTOR from 7 a.m. to 7 p.m.

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increased (from 21 to 40 percent) the number of drivers who stopped at stop lines and reduced (from 32 to 13 percent) the number of drivers who turned right on red without stopping. The number of pedestrians who yielded to turning vehicles also decreased (from 17 to 7 percent). At sites posted with signs prohibiting RTOR when pedestrians were present, there was little change overall in stopping behavior or pedestrians yielding to turning vehicles, despite the use of highly visible fluorescent yellow-green reflective sheeting for the *WHEN PEDESTRIANS ARE PRESENT* plaque.

Because time-of-day restrictions were effective in reducing RTOR-related safety threats to pedestrians and the *WHEN PEDESTRIANS ARE PRESENT* plaque was not, the Institute recommends that FHWA incorporate into MUTCD only a time-of-day supplemental plaque. The *WHEN PEDESTRIANS ARE PRESENT* plaque does not clearly indicate under what specific conditions RTOR is prohibited -- e.g., whether RTOR is prohibited when pedestrians are present anywhere in the intersection or only when in potential conflict with turning vehicles. If the latter, then drivers must judge under what conditions RTOR is restricted. This plaque also does not prohibit RTOR when bicyclists are present, whereas a time-of-day restriction can protect bicyclists against potential conflicts during specified hours. If FHWA does not incorporate the *WHEN PEDESTRIANS ARE PRESENT* plaque into MUTCD, state and local governments still would have the ability to post signs prohibiting RTOR when pedestrians are present, but they should not be encouraged to do so by FHWA.

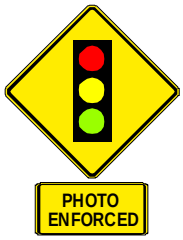
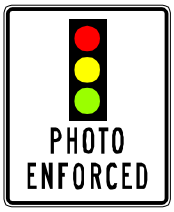
Photo Enforcement Signs

The proposed changes also include a new MUTCD section, “Photo Enforced” Signs (Section 2B.51), and two new signs: *TRAFFIC LAWS PHOTO ENFORCED*, for use at jurisdictional boundaries, and *PHOTO ENFORCED*, a regulatory sign that may be mounted below other regulatory signs to advise drivers that the regulation is camera enforced. However, the proposed *TRAFFIC LAWS PHOTO ENFORCED* sign is vague with regard to which traffic laws are photo enforced. Therefore, the Institute recommends that specific signs also should be developed for both red light cameras and automated speed enforcement.

Red light cameras are the principal form of automated traffic enforcement in the United States. The primary objective of camera enforcement is to deter drivers from running red lights. Deterrence is best achieved by increasing public perception of the likelihood of being ticketed for such violations. Therefore, to maximize the deterrent effects of red light cameras, it is essential to make drivers aware of their use. Because traffic signs are the most common method for publicizing the use of red light cameras, it is important for such signs to convey their message clearly.

Red light camera signing practices were the subject of a recent Institute study in which traffic sign experts were asked to identify preferred messages for informational, warning, and regulatory signs (Carlson and Retting, 2001). This was followed by a driver comprehension survey to determine whether these signs were understood by motorists. Sign experts generally preferred one type of informational sign, one type of warning sign, one type of regulatory sign, and these signs were understood by about 90 percent of motorists (Table 1).

Table 1
Recommended Signs to Inform Drivers of Red Light Camera Enforcement

Jurisdictional boundary sign: For use at jurisdictional boundaries. This sign includes white text on a blue background.	
Advance warning sign: For use on approaches to intersections equipped with red light cameras. These signs are yellow with black text.	
Regulatory sign: For use at intersections equipped with red light cameras. This sign, which is white with black text, should be installed on the mast arm or shoulder-mounted near the intersection.	

Source: Carlson, P.J. and Retting, R.A. 2001. Evaluation of red light camera enforcement signing. *Proceedings of the 2001 Annual Meeting of the Institute of Transportation Engineers*. Washington, DC: Institute of Transportation Engineers.

The Institute recommends that these red light camera signs be incorporated into the new MUTCD section, “Photo Enforced” Signs. Similar signs also should be developed for speed cameras. Rather than specifying that *TRAFFIC LAWS PHOTO ENFORCED* signs be installed at jurisdictional boundaries, as proposed by FHWA, we believe that installation of such signs also should be permitted and encouraged at other busy locations within photo-enforced communities such as near airports, sports arenas, universities, and other settings where local officials see fit to raise awareness of camera enforcement.

The proposed *PHOTO ENFORCED* sign is designed for use as a supplement to another regulatory sign. This type of sign may work for automated speed enforcement, where regulatory signs are used to indicate speed limits, but such a sign does not work for red light cameras because primary regulatory signs are not used in conjunction with traffic signals. For red light camera enforcement, FHWA should specify an independent regulatory sign, such as the one depicted in Table 1, that does not require use in conjunction with another regulatory sign.

Thank you for considering these comments.

Sincerely,

Richard A. Retting
Senior Transportation Engineer

cc: Docket Clerk, Docket No. FHWA 2001-11159

References

Carlson, P.J. and Retting, R.A. 2001. Evaluation of red light camera enforcement signing. *Proceedings of the 2001 Annual Meeting of the Institute of Transportation Engineers*. Washington, DC: Institute of Transportation Engineers.

Retting, R.A.; Nitzburg, M.S.; Farmer, C.M.; and Knoblauch, R.L. 2002. Field evaluation of two methods for restricting right turn on red to promote pedestrian safety. *ITE Journal* 72:32-36.