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December 11, 2007

Robert M. Shanteau, Ph.D., P.E.
13 Primrose Circle
Seaside, CA 93955

Dear Dr. R. M. Shanteau:

I have been asked to respond to your questions to Will Kempton, Director, California Department of Transportation (Department) regarding the plan to establish uniform standards, specifications, and guidelines for the detection of bicycles and motorcycles and related signal timing.

The Department has existing standards and specifications to detect bicycles and motorcycles that are utilized, when recommended by district traffic engineers for any given intersection. Video detection systems and Type "D" inductive loops are the primary tools the Department utilizes for detecting bicycles. As a result of Assembly Bill 1581 (AB1581), the Department will issue a directive to all districts to install bicycle detection when installing new traffic actuated signals or when modifying the detection sensors at traffic actuated signalized intersections, unless it is determined by site specific issues that their installation is not feasible or warranted.

Your questions and the corresponding Department's responses are listed below:

"What is Caltrans' plan to establish uniform standards, specifications, and guidelines for the detection of bicycles and motorcycles by traffic actuated signals and related signal timing? What is timeline for developing uniform standards, specifications, and guidelines for the detection of bicycles and motorcycles by traffic actuated signals and related signal timing?"

Currently, all types of inductive loops can detect motorcycles. In consultation with other public agencies, the plan and timeline to implement uniform standards etc. for all of California is as follows:

1. The Department will add a Discussion Item to the agenda of the California Traffic Control Devices Committee (CTCDC) for their January 2008 meeting. The Department will present its standards for bicycle detection and our approach to developing standards for bicycle timing. The Department will work with the CTCDC to identify and resolve issues related to the development of statewide standards for bicycle detection and related signal timing.

2. The Department will amend the scope of the existing California Partners for Advanced Transit and Highways (PATH) research project "Bicycle Detection and Operational Concept at Signalized Intersections". The new Phase 2 tasks are:
    a. Define new minimum green intervals for field testing
    b. Prepare for field testing of extended minimum green interval
    c. Field test effects of extended minimum green

    This project will be complete in June 2008.

3. Upon successful completion of the field testing of the PATH project, the Department will add an Action Item to the agenda of the CTCDC for their August 2008 meeting. The Department will present the results of the PATH research and request the CTCDC to recommend that the bicycle detection and related signal timing standards be adopted.

4. The Department anticipates that it will reach consensus with the CTCDC and adopt final standards for bicycle detection by the conclusion of their April 2009 meeting. At that time, the Department will issue interim bicycle detection and signal timing standards as an amendment to California Manual on Uniform Traffic Control Devices (CA MUTCD) website. The web update will be posted at:

    http://www.dot.ca.gov/hq/trafficops/signtech/mutcdsupp/ca_mutcd.htm

5. The Department plans on publishing the final bicycle detection and related signal timing standards in the next revision of the CA MUTCD, expected in 2010.

"Does Caltrans plan on waiting for the results of the research project, 'Bicycle Detection and Operational Concepts at Signalized intersections,' sponsored by Caltrans and being performed by California Partners for Advanced Transit and Highways (PATH), before established uniform standards, specifications, and guidelines for the detection of bicycles and motorcycles by traffic actuated signals and related signal timing?

Yes. See above.

"Has Caltrans abandoned all efforts at improving the detection of bicycles using inductive loops?

The Department does not plan to research the improvement of inductive loops at this time. The strategic direction is to move away from in-pavement detection. The Department will continue to use the Type "D" inductive loops for bicycle detection where appropriate. However, future research will be focused primarily on the refinement and evolution of video systems and other out-of-pavement detection systems at signalized intersections.

"Does Caltrans believe that inductive loops are responsible for premature pavement failure?"

No. Premature failure of pavement due to inductive loops has not been identified by the Department as an issue nor has it been a topic of any recent research.

Please note that your request for public records was processed under separate cover, per your discussions with Kevin Riley.

The Department continuously seeks to improve existing standards and is open to new ideas to enhance detection systems. Thank you again for your interest and should you have any further questions or concerns, please contact Jeff McRae at (916) 654-3781.

Sincerely,

ROBERT COPP
Chief
Division of Traffic Operations

c: Jeff McRae, Chief, Office of Intelligent Transportation Systems Projects and Standards
Kevin Riley, Division of Traffic Operation