

Memorandum

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To: SEE DISTRIBUTION LIST

Date: August 19, 2010

From: ROBERT COPP
Chief
Division of Traffic Operations

Subject: Traffic Operations Policy Directive 09-06 Implementation

BACKGROUND: The Traffic Operations Policy Directive (TOPD) 09-06 was issued August 27, 2009, since Assembly Bill 1581 became law (California Vehicle Code 21450.5) on January 1, 2008. This TOPD states that "All new limit line detector installations and modifications to the existing limit line detection on a public or private road or driveway intersecting a public road shall either provide limit line bicycle/motorcycle detection in which a Reference Bicycle-Rider is detected or be placed on permanent recall or fixed time operation." If more than 50 percent of the limit line detectors need to be replaced at a signalized intersection, then the entire intersection should be upgraded so that every lane has a limit line bicycle/motorcycle detection zone. Whether using detection, recall or fixed timing, the minimum bicycle timing must be according to Table 4D-109(CA) "Signal Operations—Minimum Bicycle Timing" in the attached TOPD 09-06 (See Attachment 1). Limit line bicycle/motorcycle detection zones, as defined by the TOPD 09-06 and this memorandum, are not applicable to freeway ramp meter signals.

IMPLEMENTATION OPTIONS: Currently, there are three types of technology approved for use for bicycle detection in Caltrans "Bicycle/Motorcycle Detection Installation Notes." (See Attachment 2):

1. In-pavement detection (Type D inductive loop).
2. Video detection.
3. Bicycle Push button.

The following explains how TOPD 09-06 will be implemented when a project is in design, construction, maintenance, permits or when Office Engineer is reviewing a signalized intersection project. Exceptions to the following must be approved by the Traffic Operations Liaisons.

OFFICE ENGINEERS: The project engineer will review traffic signal projects currently in OE to ensure compliance to TOPD 09-06 with respect to limit line bicycle/motorcycle detection. Projects will not have to be amended if video detection is already being used or the signal is going to be placed on either permanent recall or fixed time operation, using minimum bicycle timing. The project engineer, in consultation with the Division of Traffic Operations, must consider the tradeoffs of using permanent recall or fixed time operation since this type of operation is the usually less efficient.

DESIGN: All new or modified traffic signals in the design phase and future designs should incorporate bicycle/motorcycle detection, according to TOPD 09-06. Design staff should coordinate with Signal Operations staff regarding the need for limit line bicycle/motorcycle detection. Approaches to the intersection without bicycle/motorcycle limit line detection will need to be placed on permanent recall or fixed time operation with minimum bicycle timing, in compliance with TOPD 09-06. See Attachment 2 for specific information on design.

MAINTENANCE: Consideration for bicycles is needed when the Division of Maintenance performs work that disturbs bicycle/motorcycle limit line loop detection, or replaces malfunctioning loops. For limit line loop replacement, the Type D loops must be used.

Approaches without limit line detectors may either have detection installed or may be placed on recall operation, in compliance with TOPD 09-06. Maintenance is not responsible for installing limit line detection where limit line detection does not currently exist.

At a minimum, district Maintenance staff will issue a report on a quarterly basis to district Traffic Operations' staff, listing locations whenever limit line detectors are replaced, need replacement, or when approaches are put on recall operation. In those locations, future projects will be planned by district Traffic Operations to comply with TOPD 09-06.

ENCROACHMENT PERMITS: All new or modified traffic signals should incorporate limit line bicycle/motorcycle detection, according to TOPD 09-06. Consideration for bicycles is needed when an Encroachment Permits project disturbs limit line loop detection, or replaces malfunctioning loops. Approaches to the intersection without limit line detection will need to be placed on permanent recall or fixed time operation with minimum bicycle timing, in compliance with TOPD 09-06.

CONSTRUCTION: Capital projects including new signalized intersections with new limit line detectors that can not detect bicycles/motorcycles may require a contract change order (CCO) to implement bicycle/motorcycle detection. Contact Traffic Operations at the beginning of the CCO process. Traffic Operations will work with Design to provide the Resident Engineer with the necessary design changes and special provisions to be included in the CCO package. For projects where more than 50 percent of the limit line detectors will be replaced, the entire intersection should be upgraded so that every lane has a limit line bicycle/motorcycle detection zone; these projects should require a CCO to comply with TOPD 09-06. However, a CCO is not required for new or modified traffic signal projects currently in construction if at the completion of construction these signals are expected to operate by either permanent recall or fixed time operation, according to Table 4D-109(CA) in the TOPD 09-06. Exceptions to the above, or a decision to implement either permanent recall or fixed time operation, must be obtained by a joint concurrence of the Construction Coordinators and the Traffic Operations Liaison.

For projects in areas with heavy bicycle traffic, such as schools and playgrounds and where less than 50 percent of the limit line detectors will be replaced, a CCO is recommended to upgrade the detection. The cost of upgrading the detection can range from \$5,000 to over \$100,000.

During construction, temporary signal systems must still comply with the law and detect bicycles and motorcycles, or be placed on recall or fixed time operation, to the extent possible. Regardless, minimum bicycle timing should be followed according to Table 4D-109(CA). Traffic operations staff should be notified to adjust the configuration settings for bicycle/motorcycle detection, especially for video detection systems.

If you have any questions, please contact Martha Styer, Senior Transportation Electrical Engineer, Office of Traffic Signal Operations & Systems at (916) 651-9364 or by email to martha.styer@dot.ca.gov.

Attachments