



California Traffic Control Devices Committee Agenda Item Report



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| Meeting Date: February 02, 2023 | From: Patrick Leung, PE, OSD |
| Item Number: 22-10 | |
| Sponsored By: Yue Wang, PE, Caltrans | Presented By: Michael C. Robinson, PE, Caltrans |
| Description: Revisions to Pedestrians Intervals and Signal Phases to comply with Assembly Bill AB-2264 (effective January 1, 2023), which includes requirements for leading pedestrian interval and accessible pedestrian signals and detectors at state traffic signals. | |

Recommendation:

Motion by committee to recommend inclusion of the proposed changes to the California Manual on Uniform Traffic Control Devices (CA MUTCD) Section 4E.06 "Pedestrians Intervals and Signal Phases" to comply with Assembly Bill AB-2264 (effective January 1, 2023).

Agency Making Request/Sponsor:

Michael C. Robinson, Caltrans / Yue Wang, CTCDC Member.

Background:

Assembly Bill AB-2264 titled "Pedestrian crossing signals" authored by Bloom (A), Haney (A), and Portantino (S), was approved by Governor and filed with Secretary of State on September 23, 2022.

AB-2264 amends the Vehicle Code Section 21450.5 to require state-owned or operated traffic-actuated signals upon first placement or replacement to include leading pedestrian interval (LPI) with accessible pedestrian signals (APS) and detectors. Existing state-owned or operated traffic-actuated signals, if located within bill specified areas, will be required by AB-2264 to have LPI installed when maintenance work is performed.

Earlier AB-2264 drafts required both state and local traffic signals to implement LPI. Bill revisions narrowed the focus to "state-owned or operated" to eliminate the local requirement to perform work. However, local agencies operate delegated state-owned traffic signals, requiring local agencies to perform work, and be reimbursed by the state to implement LPI. After review of the legislature's bill analysis, the intent of the bill is to target work performed by the state which is done only on state operated traffic signals.

The inclusion of maintenance work is not clear who performs the work. Electrical Maintenance does not adjust signal timing and therefore cannot implement LPI. Traffic signal timing changes are performed by signal operations who periodically

perform operational reviews. The CA MUTCD update needs to be clear that maintenance work performed on traffic signals refer to signal operations work performed during scheduled operational reviews where signal operations are prepared to determine if a traffic signal is located within a bill specified area requiring LPI.

After review of the legislature's bill analysis, the bill does not mention engineering judgement for determining traffic signal locations requiring LPI. However, the bill's intent based on legislative analysis is "allowing pedestrians to avoid confrontations with vehicles making right-hand turns." If there is no confrontation between vehicle and pedestrian movements on a controlled crosswalk there is no benefit to implementing LPI on that crosswalk. Crosswalks without vehicle and pedestrian conflicting movements should be exempt from implementing LPI.

A Caltrans Traffic Operations Memorandum was released to provide initial LPI guidance until the Traffic Operations Policy Directive (TOPD) for LPI is finalized. The draft TOPD is currently under review by signal operations functional managers.

Refer to the following for more background and information on AB-2264:

1. Text of AB-2264 Pedestrian Crossing Signals:

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB2264

2. AB-2264 Bill Analyses:

https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=202120220AB2264

3. AB-2264 Today's Law As Amended:

https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=202120220AB2264&showamends=false

Attachments:

Attachment A – AB-2264 Pedestrian Crossing Signals.

Attachment B – Memorandum Implementation of LPI at Signalized Intersections.

Attachment C – Proposed Revisions to CA MUTCD Section 4E.06.



ATTACHMENT A

POSTPONED TO MAY 2023 MEETING



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Attachment A – AB-2264 Pedestrian Crossing Signals.



Assembly Bill No. 2264

CHAPTER 496

An act to amend Section 21450.5 of the Vehicle Code, relating to pedestrians.

[Approved by Governor September 23, 2022. Filed with Secretary of State September 23, 2022.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2264, Bloom. Pedestrian crossing signals.

Under existing law, a pedestrian control signal showing a "WALK" or approved "Walking Person" symbol means a pedestrian may proceed across the roadway in the direction of the signal. Under existing law, a pedestrian facing a flashing "DON'T WALK" or "WAIT" or approved "Upraised Hand" symbol with a "countdown" signal, as specified, means a pedestrian may start crossing the roadway in the direction of the signal but requires the pedestrian to finish crossing prior to the display of the steady "DON'T WALK" or "WAIT" or approved "Upraised Hand" symbol, as specified.

Existing law defines a traffic-actuated signal as an official traffic signal, as specified, that displays one or more of its indications in response to traffic detected by mechanical, visual, electrical, or other means. Upon the first placement or replacement of a traffic-actuated signal, as specified, existing law requires the traffic-actuated signal to be installed and maintained to detect bicycle or motorcycle traffic on the roadway.

This bill would require a traffic-actuated signal to be installed and maintained to have a leading pedestrian interval, and to include the installation, activation, and maintenance of an accessible pedestrian signal and detector, upon the first placement or replacement of a state-owned or operated traffic-actuated signal. The bill would also require an existing state-owned or operated traffic-actuated signal capable of being implemented with remote installation or in-person programming to be programmed with a leading pedestrian interval when maintenance work is done on the intersection in which the traffic-actuated signal is located, if the signal is in a residential, business, or business activity district, a safety corridor, a school zone, or an area with a high concentration of pedestrians and cyclists, as specified. These requirements would not apply when prohibited by the California Manual on Uniform Traffic Control Devices. The bill would, for these purposes, define a "leading pedestrian interval" as an official traffic control signal that advances the "WALK" signal for 3 to 7 seconds while the red signal halting traffic continues to be displayed on parallel through or turning traffic, and define "accessible pedestrian signal and detector" as an integrated device that communicates information about the "WALK" and "DON'T WALK" intervals at signalized intersections in nonvisual

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formats, including audible tones, speech messages, and vibrotactile surfaces, to pedestrians who are blind or have low vision.

The people of the State of California do enact as follows:

SECTION 1. Section 21450.5 of the Vehicle Code is amended to read:
21450.5. (a) A traffic-actuated signal is an official traffic control signal, as specified in Section 445, that displays one or more of its indications in response to the presence of traffic detected by mechanical, visual, electrical, or other means.

(b) Upon the first placement of a traffic-actuated signal or replacement of the loop detector of a traffic-actuated signal, the traffic-actuated signal shall, to the extent feasible and in conformance with professional traffic engineering practice, be installed and maintained to detect lawful bicycle or motorcycle traffic on the roadway.

(c) Cities, counties, and cities and counties shall not be required to comply with the provisions contained in subdivision (b) until the Department of Transportation, in consultation with these entities, has established uniform standards, specifications, and guidelines for the detection of bicycles and motorcycles by traffic-actuated signals and related signal timing.

(d) (1) Upon the first placement or replacement of a state-owned or operated traffic-actuated signal, a traffic-actuated signal shall be installed and maintained to have a leading pedestrian interval, and shall include the installation, activation, and maintenance of an accessible pedestrian signal and detector that complies with sections 4E.08 to 4E.13 of the California Manual on Uniform Traffic Control Devices in effect on December 31, 2022.

(2) An existing state-owned or operated traffic-actuated signal capable of being implemented with remote installation or in-person programming shall have a leading pedestrian interval programmed when maintenance work is done on the intersection in which the traffic-actuated signal is located, if the traffic-actuated signal is in any of the following areas:

- (A) A residential district.
- (B) A business district.
- (C) A business activity district.
- (D) A safety corridor.
- (E) A school zone.

(F) An area with a high concentration of pedestrians and cyclists, as determined by the Department of Transportation pursuant to Section 22358.7.

(3) The requirements in paragraphs (1) and (2) do not apply when prohibited by the California Manual on Uniform Traffic Control Devices.

(4) As used in this subdivision, a “leading pedestrian interval” means an official traffic control signal that advances the “WALK” signal for three to seven seconds while the red signal halting traffic continues to be displayed on parallel through or turning traffic.



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(5) As used in this subdivision, an “accessible pedestrian signal and detector” means an integrated device that communicates information about the “WALK” and “DON’T WALK” intervals at signalized intersections in nonvisual formats, including audible tones, speech messages, and vibrotactile surfaces, to pedestrians who are blind or have low vision.

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ATTACHMENT B

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Attachment B – Memorandum Implementation of LPI at Signalized Intersections.

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

To: DISTRICT DIRECTORS
DEPUTY DISTRICT DIRECTORS, Traffic Operations

Date: December 29, 2022

From: DAVID MAN *Said Asmail*
Acting Division Chief for
Traffic Operations

Subject: **IMPLEMENTATION OF LEADING PEDESTRIAN INTERVAL (LPI) AT SIGNALIZED INTERSECTIONS**

Assembly Bill (AB) 2264 Pedestrian Crossing Signals, effective January 1, 2023, requires traffic signals support of leading pedestrian interval (LPI) on the SHS. Districts shall implement active accessible pedestrian signals (APS) and touch-free detectors with LPI on newly installed and replaced traffic signals. When developing new traffic signal projects, the traffic signal design needs to comply with AB 2264.

Existing state operated traffic-actuated signals shall have LPI implemented within the specified LPI areas:

- Residential district
- Business district
- Business activity district, as determined by CVC Section 22358.9
- Safety corridor *
- School zone
- Area with a high concentration of pedestrians and cyclists, as determined by CVC Section 22358.7 *

* Terminology will be defined in the next CA MUTCD.

All state operated traffic-actuated signals located in the LPI areas specified above shall be recorded in the Transportation Management System (TMS) Inventory Database. After performing annual operational reviews, traffic signals requiring LPI shall be upgraded and recorded in the TMS Inventory Database.

Intersection approaches may have APS and pedestrian countdown signals, however, traffic signals with LPI configured can operate without APS. Depending upon traffic conditions and local geometrics, some LPI areas may require illuminated blank out signs.

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For traffic signals not identified in the LPI areas specified, the districts should follow the [Guidelines for Implementing LPI](#) set forth by the Division of Safety Programs to evaluate and implement LPI at signalized intersections.

State-operated traffic-actuated signals that do not have conflicting movements between vehicles and pedestrians do not require LPI for those movements that are not in conflict. These exempted movements will be recorded in the TMS Inventory Database.

A follow-up Traffic Operations Policy Directive (TOPD) providing additional guidance and details is in progress and expected to be issued in early 2023.

If you have any questions, please contact Patrick Leung, Acting Chief, Office of Systems Development, at (916) 202-4951 or email at <patrick.leung@dot.ca.gov>.

- c: Cory Binns, Deputy Director, Maintenance and Operations
Donna Berry, Deputy Director, Project Delivery
Sergio Aceves, Chief, Division of Maintenance
Rachel Carpenter, Chief Safety Officer, Division of Safety Programs
Said Ismail, Deputy Division Chief, Division of Traffic Operations
Monica Kress-Wooster, Deputy Division Chief, Division of Safety Programs
Deputy District Directors, Maintenance
Patrick Leung, Acting Chief, Office of Systems Development, Division of Traffic Operations

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ATTACHMENT C

POSTPONED TO MAY 2023 MEETING

Attachment C – Proposed Revisions to CA MUTCD Section 4E.06.

Proposal:

Note:

Black text is unedited National MUTCD text adopted for use in current CA MUTCD.

Red text is text that is proposed to be included in the current CA MUTCD by this proposal.

Revise Section 4E.06 as shown:

Support:

²⁴ At intersections with pedestrian volumes that are so high that drivers have difficulty finding an opportunity to turn across the crosswalk, the duration of the green interval for a parallel concurrent vehicular movement is sometimes intentionally set to extend beyond the pedestrian clearance time to provide turning drivers additional green time to make their turns while the pedestrian signal head is displaying a steady UPRAISED HAND (symbolizing DONT WALK) signal indication after pedestrians have had time to complete their crossings.

Standard:

²⁵ Except as provided in paragraph 27, upon the first placement or replacement of a state operated traffic-actuated signal that is equipped with pedestrian crosswalks, a traffic-actuated signal shall be installed and maintained to have a leading pedestrian interval, and shall include the installation, activation, and maintenance of an accessible pedestrian signal and detector that complies with sections 4E.08 to 4E.13.

²⁶ Except as provided in paragraph 27, existing state operated traffic-actuated signals shall be configured to include a leading pedestrian interval as part of an operational review that are performed on traffic-actuated signals in any of the following areas:

- A. Residential district.
- B. Business district.
- C. Business activity district, as determined by the CVC Section 22358.9.
- D. Safety corridor.
- E. School zone.
- F. An area with a high concentration of pedestrians and cyclists, as determined by CVC Section 22358.7.

Option:

²⁷ State operated traffic-activated signals that do not have conflicting vehicle movements with pedestrians do not require leading pedestrian interval for those movements that are not in conflict. For example, for a one-way offramp feeding into major street, there would be no conflicting movement from the major street into the offramp, and therefore, no benefit from adding a leading pedestrian interval for the crosswalk on the off-ramp.