



# California Traffic Control Devices Committee (CTCDC) Agenda Item Report



<b>Meeting Date:</b> February 1, 2024 <b>Item Number:</b> 24-02	<b>From:</b> Rock Miller, CTCDC Member
<b>Sponsored By:</b> Rock Miller, CTCDC Member	<b>Presented By:</b> Rock Miller, CTCDC Member
<b>Description:</b> Bike Signal Warrant PRELIMINARY DRAFT Proposal to NCUTCD for CTCDC discussion as information item	

**Recommendation:**

None.

**Agency Making Request/Sponsor:**

Rock Miller, CTCDC Member / Rock Miller, CTCDC Member

**Background:**

Rock Miller has prepared a **highly preliminary draft** proposal on behalf of the League of American Bicyclists that will be presented to the NCUTCD to possibly consider a request to amend the Federal MUTCD in the future. The proposal is to add a new traffic signal warrant to the Federal MUTCD. It will provide for construction of a traffic signal for a bicycle trail or other facility, where the need for the traffic signal is primarily to meet the needs of bicycling.

The CA MUTCD previously had a warrant that would accomplish this goal, but it was removed a few years ago, when IA-16 allowing bicycle signals was issued by the FHWA.

Rock Miller is requesting CTCDC and Caltrans to review and discuss this proposal as an information item.

**Attachments:**

Attachment A – Bike Signal Warrant Draft Proposal.

Attachment B – Bike Signal Warrant in CA MUTCD (1/21/2010).



# ATTACHMENT A

## Attachment A – Bike Signal Warrant Draft Proposal.

*This is a very preliminary draft proposal being developed as a potential addition to the US Manual on Uniform Traffic Control Devices (MUTCD). It is being submitted to the National Committee on Uniform Traffic Control Devices (NCUTCD) by a representative of a member organization, the League of American Bicyclists. The proposal is subject to change or withdrawal after review by the NCUTCD, its subcommittees and sponsors. The volume figure is based upon the volume figure in the PHB warrant.*

### PART 4. HIGHWAY TRAFFIC SIGNALS

#### CHAPTER 4C. TRAFFIC CONTROL SIGNAL NEEDS STUDIES

##### Section 4C.11 Warrant 11, Traffic Control Signal for Bikeway Crossing

###### Support:

1. A traffic control signal can be useful at junctions between roadways and bikeways to control bicyclists, provide continuity for bicycling, and to reduce potential conflicts between bicycles and other users.
2. This warrant is intended for use when an engineering study determines that a traffic control signal is justified to accommodate bicyclists at an intersection or bikeway, including but not limited to:
  - shared-use path crossings of roadways
  - bicycle lanes or bikeways at roadway intersections
  - “bicycle boulevards”.

###### Guidance:

03 The need for a traffic control signal should be considered when the criteria for one or more of the following categories is met:

04 VOLUME: For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the roadway vehicles per hour (total of both approaches) that the total bicycle traffic crossing and the corresponding bicycles crossing that street falls above the curve in Figure [redacted] for the appropriate crossing length.

###### Option:

05 The total number of bicycles per hour (BPH) may be based upon a projection of anticipated bicycle use for proposed facilities or existing facilities to be expanded to accommodate an increase in bicycle use.

06 For example, if the crossing is a shared-use path or includes a parallel pedestrian crossing, pedestrians may be added to the number of bicycles for the purpose of this engineering study.

###### Guidance:

07 CRASH EXPERIENCE: When 2 or more bicycle/vehicle crashes of types susceptible to correction by a traffic control signal have occurred over a 12-month period and an engineering study determines that a traffic control signal is expected to reduce the number of crashes.

###### Option:

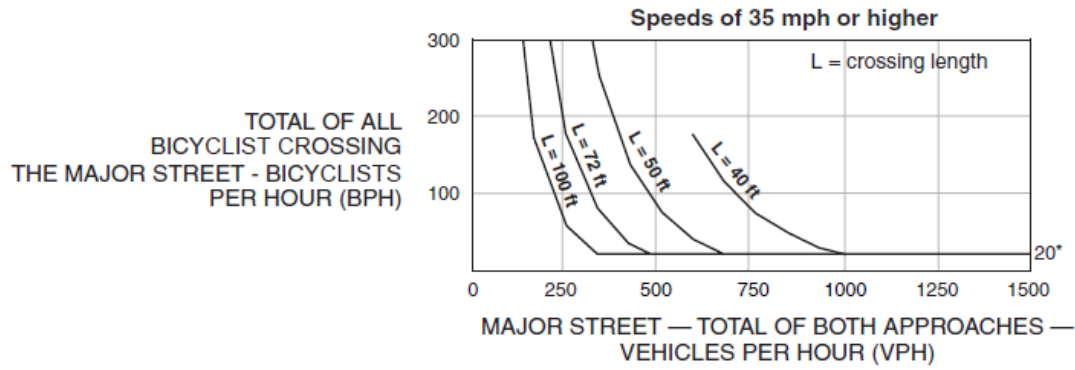
08 When an engineering study determines that the configuration and usage pattern expected at the intersection or crossing is comparable to other locations where bicycle/vehicle crashes have occurred meeting the bicycle Crash Experience warrant noted above, a traffic control signal may be considered. Refer to Section [redacted] for factors for all types of users that may be considered in the engineering study.

09 At locations where a traffic control signal may encourage undesirable non-bicycle traffic, vehicle turn prohibitions or other measures may be considered to limit the potential increase in motor vehicle traffic.

###### Support:

10 Where a traffic control signal is warranted subject to this section, bicycle traffic can be controlled through the use of a standard traffic control signal head, bicycle signal face(s), or pedestrian signal heads subject to the standards of **the relevant MUTCD sections.**

**Bicycle Signal Warrant  
Peak Hour**



\* Note: 20 bph applies as the lower threshold volume



# ATTACHMENT B

Attachment B – Bike Signal Warrant in CA MUTCD (1/21/2010).

# California Manual on Uniform Traffic Control Devices

for Streets and Highways

(FHWA's MUTCD 2003 Edition  
including Revisions 1 and 2,  
as amended for use in California)

PART 4  
Highway Traffic Signals



STATE OF CALIFORNIA  
BUSINESS, TRANSPORTATION AND HOUSING AGENCY  
DEPARTMENT OF TRANSPORTATION

not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or 64 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

### Section 4C.09 Warrant 8, Roadway Network

Support:

Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or
- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).

A major route as used in this signal warrant shall have one or more of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or
- B. It includes rural or suburban highways outside, entering, or traversing a City; or
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

### Section 4C.101(CA) Criterion for School Crossing Traffic Signals

Standard:

- 1. The signal shall be designed for full-time operation.
- 2. Pedestrian signal faces of the International Symbol type shall be installed at all marked crosswalks at signalized intersections along the "Suggested Route to School."
- 3. If an intersection is signalized under this guideline for school pedestrians, the entire intersection shall be signalized.
- 4. School area traffic signals shall be traffic actuated type with push buttons or other detectors for pedestrians.

Option:

Non-intersection school pedestrian crosswalk locations may be signalized when justified.

### Section 4C.102(CA) Bicycle Signal Warrant

Guidance:

A bicycle signal should be considered for use only when the volume and collision or volume and geometric warrants have been met:

- 1. Volume; When  $W = B \times V$  and  $W \geq 50,000$  and  $B \geq 50$ .  
Where: W is the volume warrant. B is the number of bicycles at the peak hour entering the intersection. V is the number of vehicles at the peak hour entering the intersection. B and V shall use the same peak hour.
- 2. Collision; When 2 or more bicycle/vehicle collisions of types susceptible to correction by a bicycle signal have



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California MUTCD  
(FHWA's MUTCD 2003 including Revisions 1 and 2, as amended for use in California)

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occurred over a 12-month period and the responsible public works official determines that a bicycle signal will reduce the number of collisions.

3. Geometric; (a) Where a separate bicycle/ multi use path intersects a roadway. (b) At other locations to facilitate a bicycle movement that is not permitted for a motor vehicle.

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