

City of Oakland


Public Works Agency (PWA)

Department of Engineering & Construction

Transportation Services Division



Memorandum

To: TSD Engineering Staff
From: Wladimir Wlassowsky 
Date: November 26, 2013
Re: Supplemental Design Guidance for Bike Lane Regulatory Signs

This memorandum provides engineering and design guidance on the use of the following Bike Lane regulatory signs:

- R81 (BIKE LANE)
- R81A (BEGIN)
- R81B (END)

The additional guidance specifies how Oakland will meet the requirements of the CA MUTCD while reducing certain redundancy of traffic control and minimizing sign clutter.

CA MUTCD Standard (Section 9B.04 Bicycle Lane Signs, page 9C-4):

Standard:

The Bike Lane (R81(CA)) sign shall be placed at the beginning of each designated Bike Lane and along each Bike Lane at all major changes in direction. The R81(CA) sign shall be used to regulate bicycle and motor vehicle traffic, in accordance with CVC Sections 21207, 21207.5, 21208, 21209 and 21717.

Guidance:

The Bike Lane (R81(CA)) sign should be placed at every arterial street and at 800 m (1/2 mi) intervals of each designated Bike lane.

Option:

The BEGIN (R81A(CA)) and END (R81B(CA)) signs may be used below the R81(CA) sign to mark the beginning or end of a bike lane.

Oakland Standards:

- The Bike Lane (R81(CA)) sign shall be placed at the beginning of each designated Bike Lane.
- The beginning of a bike lane is defined as the first location in a bikeway corridor where a bike lane begins. Additional R81 signs are not required where a bike lane continues after a short

gap in that bike lane. Specifically, the R81 sign is not required if there is a bike lane on any portion of the upstream block or the gap in the bike lane is less than 300 feet.¹

- The BEGIN (R81A(CA)) and END R81B(CA)) signs shall not be used.
- The R81 sign shall be 24" wide by 18" high.

Oakland Options:

- The R81 sign may be placed at every arterial street and at ½ mile intervals.

Discussion

The supplemental guidance addresses: (1) the redundancy of R81 signs in combination with bike wayfinding signs; (2) the redundancy of R81 signs in combination with bike lane striping and markings; (3) the utility of R81A/B signs; and (4) the standardization of R81 sign sizes, as discussed below.

1. Bike Lane regulatory signs and guide signs serve different purposes. However, the installation of both sign types results in frequent bikeway signs or tall assemblies that convey much the same message: a street is designated for use by bicyclists. Extensive use of both sign types results in visual clutter and added maintenance. This design guidance meets the minimum requirements for R81 regulatory signs and recognizes that more frequent guide signs provide a greater public benefit than additional R81 signs.

Further, bike lanes may be dropped on the approach of a busy intersection to make space for additional travel lanes as the result of intersection level of service analyses. Such gaps do not merit the installation of an R81 on the far side of each intersection on streets with otherwise continuous bike lanes.

2. R81 signs were introduced to accompany bike lanes when such facilities were not well known. Bike lanes are now commonplace in Oakland, and are easily distinguished from other lanes by virtue of their width, the stripe width (there is no other lane type designated by a 6" longitudinal stripe), and the presence of bike lane pavement markings. It can be argued that the R81 sign has outlived its usefulness. Note that the Federal MUTCD (2012) does not require the bike lane sign:

Federal MUTCD (2012)

Section 9B.04 Bike Lane Signs and Plaques (R3-17, R3-17aP, R3-17bP)

Standard:

01 The BIKE LANE (R3-17) sign and the R3-17aP and R3-17bP plaques (see Figure 9B-2) shall be used only in conjunction with marked bicycle lanes as described in Section 9C.04.

Guidance:

02 If used, Bike Lane signs and plaques should be used in advance of the upstream end of the bicycle lane, at the downstream end of the bicycle lane, and at periodic intervals along the bicycle lane as determined by engineering judgment based on

¹ Where the bike lane is dropped creating a gap of 300 feet or less, the City will install Shared Roadway Bicycle Markings, and may install R4-11 ([BIKES] MAY USE FULL LANE) signs.

prevailing speed of bicycle and other traffic, block length, distances from adjacent intersections, and other considerations.

3. The R81A (BEGIN) sign serves no practical purpose and is not used in Oakland. The installation of the bike lane symbol and arrow mark bike lanes at the beginning of each block. The R81B (END) sign provides potentially useful information at the end of a bike lane. However, locating the sign at the end of the bike lane is too late to notify road users of the necessary merge. At this time the MUTCD provides no other methods for indicating the end of a bike lane and the impending merge.
4. Per CA MUTCD Table 9B-1(CA), California Minimum Sign Sizes for Bicycle Facilities, the minimum size for the R81 sign is 12" x 8". However, the minimum size is too small to be seen from across an intersection—and R81 signs are typically located at the far side of the intersection, where the bike lane begins. Therefore, when used the R81 sign shall be 24" x 18" (the same size as Oakland's bike route sign).