

May 24, 2001

Active Bicycle Warning Signs

File Code: TRA-16-04-19-01

Active warning signs for bicycles, similar to the devices that the Oregon Department of Transportation uses in tunnels on the coast highway (See Figure 1), have recently been proposed or are being installed in other locations in Oregon (i.e. bridges). Traffic Management is concerned about the proliferation of these devices, possibly to locations where they are not warranted. Traffic desires to establish guidelines for the installation of these devices which will be developed by a committee. The purpose of this document is to summarize the application of the devices by other agencies - including evidence of their effectiveness and guidelines for installation.

Current literature was searched, but no reference was found to the effectiveness of active warning signs specifically related to this application. NCHRP Synthesis 186 on "Advanced Supplemental Warning Devices" (1993) did not include any reference to warning devices related to bicyclists. Many of the supplemental warning devices were similar, but only anecdotal evidence of their effectiveness was described. Input was solicited from an ITE mailing list on the current use of active warning signs for bicycles by others agencies. The feedback received from the list and follow-ups are summarized below.



Colorado DOT

The Colorado DOT has one installation on US40 near Mount Harris in Region 3. The installation is in a canyon with limited visibility and narrow or no shoulders. The sign is placed at the beginning of the 1 mile section and activated by a push button for cyclists. The device is timed for the average cyclist to travel the mile distance before the flashers stop. No crash experience was reported before, and no reported incidence after installation. Jim Nall, traffic engineer for Region 3, recommends the use of the following warrants for the installation of the devices: 1) limited sight distance for motorists; 2) no separation or shoulders

Contact: Jim Nall, Colorado DOT 970-248-7213

Nevada DOT

The Nevada DOT has a similar active warning sign for bicyclist installed on US 50 in Lake Tahoe. They had a counter installed on the push button activation and found that the button gets hit approximately 200 to 250 times a month during the summer. The location of the signs are such that a person could not walk up to it a push the button a

multiple times so they are fairly confident that it's only cyclists (peds are prohibited through this tunnel). No criteria has been established for installation of the devices. One other location under consideration is another tunnel located on I-80 in eastern Nevada.

Contact: Eric Glick, Bicycle and Pedestrian Coordinator, (775) 888-RIDE

CalTRANS

In CalTRANS District 1 (Eureka) they currently have three similar devices installed. One is on a bridge, one at the entrance to a tunnel, and the other is used in temporary situations on a bridge with a temporary lane closure. Installation is guided by the engineer's best judgement. They consider locations with 1) high volumes, 2) high speeds; 3) known bicycle route 4) little or no shoulder or bike lane.

Contact: Stephanie Kuhlman 707-441-3981

Other Contacts/Applications

Peter Rusch, Wisconsin DOT, NCUTCD Bicycle Chairman

Knows of no studies of the effectiveness of devices

José I. Farrán, P.E.- Wilbur Smith Associates San Francisco, CA by email dated 5/8/2001

"There is a similar traffic control device configuration at the Bunker Road tunnel in the Golden Gate National Recreation Area in Marin County (CA.) immediately to the north of the Golden Gate Bridge. The tunnel connects the Marin Headlands area with Fort Baker and Sausalito. The narrow tunnel is configured as a single traffic lane in the center with two bike lanes, one on each side.

Motorized vehicles through the tunnel alternate between eastbound and westbound by means of traffic signals located at both ends of the tunnel. The cycle length is approximately 6 minutes. The speed limit in the tunnel is signed to 25 mph. Bicyclist entering the tunnel from either end are requested to push a button that activates a flashing yellow light at each end of the tunnel, mounted next to a W11-1 sign with a plate that reads "Bicycles in Tunnel when lights flashing - Speed limit 25 mph". This is a recreational route for both motor vehicles and bicycles."

Chris Monsere asked the ITE Traffic and ITE Safety lists:

Colleagues:

In recent years, the Oregon DOT has installed active warning signs prior to the entrance to many of the tunnels on our state highways (5-6) that read "Bicycles in Tunnel When Lights Flash -20 MPH". The signs have flashing amber beacons that are activated with a push button by bicyclists when they enter the tunnel. The signs has proved to be popular with both drivers and bicyclists.

We have now have numerous requests to install these signs at locations with similar hazardous conditions - such as bridges with narrow shoulders. I am interested in obtaining research and or feedback on the effectiveness of similar devices. Does anyone have experience or know of jurisdictions other than Oregon that have active warning signs relating to bicycles?