

VIRGINIA DEPARTMENT OF TRANSPORTATION

TRAFFIC ENGINEERING DIVISION

MEMORANDUM

GENERAL SUBJECT: Traffic Signs / Traffic Signals		NUMBER: TE-348
SPECIFIC SUBJECT: Traffic Signal Controller Actuated Warning Beacons		DATE: May 5, 2007
		SUPERSEDES:
DIRECTED TO: Regional Operations Directors	SIGNATURE: <i>Raymond J. Khoury</i>	

Controller actuated beacons (CAB) are traffic signal warning beacons activated by phases of a signal controller. They shall only be considered for use when the following minimum criteria are met:

- Posted speed limit of 45 mph or greater exists
- Drivers do not have a continuous view of at least 2 signal faces for the distance specified in the table “Minimum Sight Distance” found in Part 4 of the MUTCD
- Other countermeasures have been used at the location in question without remedy of the crash concern

Additional information that provides insight into the potential benefits and deterrents that may be expected when using CAB may be found in the composite of information assembled by the Virginia Transportation Research Council. [Click here](#) for a link to that research information.

Installations of CAB shall conform to the following:

Operational Characteristics:

- A motorist maintaining the posted speed shall not receive a red indication at the traffic signal, if the CAB is powered but not flashing as the motorist passes it.
- A motorist maintaining the posted speed shall not receive a yellow indication at the traffic signal, if the CAB is powered but not flashing as the motorist passes it, except when the motorist has also passed the end point of the dilemma zone (the point at which most motorists will not consider stopping for a yellow light).
- A motorist who is not exceeding the posted speed and has not entered the dilemma zone when passing a CAB that is flashing shall receive a yellow or a red indication at the traffic signal.

Technical Characteristics:

- The malfunction management unit or conflict monitor unit (as applicable) that is monitoring the traffic signal controller used for the activation of the warning beacons shall monitor the CAB (regardless of the wiring configuration used). If absence of power to the CAB is detected the traffic signal shall be set to a flash mode.

The related warning signs shall be in accordance with the MUTCD guidelines for Advance Traffic Control Signs. These sign assemblies include a Signal Ahead symbol sign, a BE PREPARED TO STOP sign, and a supplemental WHEN FLASHING plaque. Placement of these signs shall comply with the MUTCD table “Guidelines for Advance Placement of Warning Signs” or as determined by the Regional Traffic Engineer.

Removal of CAB shall occur when either of the following criteria are met:

- The posted speed limit is reduced to less than 45 MPH
- The condition that caused the sight distance limitation is removed or the sight distance is otherwise improved such that continuous view of at least two signal indications for the minimum visibility distance as stated in Section 4 of the *MUTCD* is achieved.

These requirements are effective immediately. Any existing installations that do not meet the above requirements for installation should be removed. If the existing installations meet the minimum criteria for removal but are kept in operation, the Regional Traffic Engineer must submit documentation to the State Traffic Engineer supporting the decision.

All CABs shall be monitored for absence of power by a malfunction management unit or conflict monitor at the local controller. The compliance date for existing locations to be retrofitted to meet this requirement is May 1, 2008.

Any sign message that does not conform to the MUTCD guidelines may remain until the sign is replaced due to maintenance needs.

cc: District Administrators
Division Administrators
Regional Ops Maint Managers
Regional Traffic Engineers
Regional Traf Ops Managers
Resident Administrators
Ms. Constance S. Sorrell
Mr. Greg Whirley
Dr. Gary Allen
Mr. Malcolm T. Kerley, P.E.
Mr. Robert Fonseca
Mr. E. D. Arnold