

## CHAPTER 4M. TRAFFIC CONTROL SIGNALS FOR EMERGENCY-VEHICLE ACCESS

### Section 4M.01 Application of Emergency-Vehicle Traffic Control Signals

#### Support:

01 An emergency-vehicle traffic control signal is a special traffic control signal that directs all conflicting traffic to stop in order to permit the driver of an authorized emergency vehicle to proceed into the roadway or intersection.

#### Option:

02 An emergency-vehicle traffic control signal may be installed at a location that does not meet other traffic signal warrants such as at an intersection or other location to permit direct access from a building housing the emergency vehicle.

03 An emergency-vehicle hybrid beacon may be installed instead of an emergency-vehicle traffic control signal under the conditions described in Section 4N.01.

#### Guidance:

04 *If a traffic control signal is not justified under the signal warrants of Chapter 4C and if gaps in traffic are not adequate to permit the timely entrance of emergency vehicles, or the stopping sight distance for vehicles approaching on the major street is insufficient for emergency vehicles, installing an emergency- vehicle traffic control signal should be considered. If one of the signal warrants of Chapter 4C is met and a traffic control signal is justified by an engineering study, and if a decision is made to install a traffic control signal, it should be installed based upon the provisions of Chapters 4D through 4I and 4K.*

05 *The sight distance determination should be based on the location of the visibility obstruction for the critical approach lane for each street or drive and the posted or statutory speed limit or 85th-percentile speed on the major street, whichever is higher.*

### Section 4M.02 Design of Emergency-Vehicle Traffic Control Signals

#### Standard:

01 Except as otherwise provided in this Section, an emergency-vehicle traffic control signal shall meet the requirements of this Manual.

02 An Emergency Vehicle (W11-8) sign (see Section 2C.54) with an EMERGENCY SIGNAL AHEAD (W11-12P) supplemental plaque shall be placed in advance of all emergency-vehicle traffic control signals. If a Warning Beacon is installed to supplement the W11-8 sign, the design and location of the beacon shall comply with the Standards of Sections 4S.01 and 4S.03.

#### Guidance:

03 At least one of the two required signal faces for each approach on the major street should be located over the roadway.

04 The following size signal indications should be used for emergency-vehicle traffic control signals: 12- inch diameter for steady red and steady yellow circular signal indications and any arrow indications, and 8- inch diameter for green or flashing yellow circular signal indications.

#### Standard:

05 An EMERGENCY SIGNAL (R10-13) sign (see Section 2B.59) shall be installed facing each major-street approach.

06 If an overhead signal face is provided, the EMERGENCY SIGNAL sign shall be mounted adjacent to the overhead signal face.

#### Option:

07 An approach that only serves emergency vehicles may be provided with only one signal face consisting of one or more signal sections.

08 Besides using an 8-inch diameter signal indication, other appropriate means to reduce the flashing yellow light output may be used.

### Section 4M.03 Operation of Emergency-Vehicle Traffic Control Signals

#### Standard:

01 Green signal indications for emergency vehicles at signalized locations operating in the steady (stop-and-go) mode shall be obtained as provided in Section 4F.19.

02 **As a minimum, the signal indications, sequence, and manner of operation of an emergency- vehicle traffic control signal installed at a midblock location shall be as follows:**

- A. The signal indication, between emergency-vehicle actuations, shall be either green or flashing yellow. If the flashing yellow signal indication is used instead of the green signal indication, it shall be displayed in the normal position of the green signal indication, while the steady red and steady yellow signal indications shall be displayed in their normal positions.
- B. When an emergency-vehicle actuation occurs, a steady yellow change interval followed by a steady red interval shall be displayed to traffic on the major street.
- C. A yellow change interval is not required following the green interval for the emergency-vehicle driveway.

*Guidance:*

03 *Emergency-vehicle traffic control signals located at intersections should either be operated in the flashing mode (see Sections 4G.01 and 4G.03) between emergency-vehicle actuations or be full-actuated or semi-actuated to accommodate normal vehicular and pedestrian traffic on the streets.*

04 *Warning Beacons, if used with an emergency-vehicle traffic control signal, should be flashed only:*

- A. *For an appropriate time in advance of and during the steady yellow change interval for the major street, and*
- B. *During the steady red interval for the major street.*

05 *The duration of the steady red interval for traffic on the major street should be determined by on-site test-run time studies, but should not exceed 1.5 times the time required for the emergency vehicle to clear the path of conflicting vehicles.*

*Option:*

06 *An emergency-vehicle traffic control signal sequence may be initiated manually from a local control point such as a fire station or law enforcement headquarters or from an emergency vehicle equipped for remote operation of the signal.*