



National Committee on Uniform Traffic Control Devices

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NOTE: This is a recommendation to FHWA concerning the MUTCD by the National Committee on Uniform Traffic Control Devices (NCUTCD). This recommendation is not a revision to the MUTCD and does not constitute official standards, guidance, or options. No proposed revision to the MUTCD is effective unless and until approved by FHWA through an Interim Approval or through the Federal rulemaking process.

TECHNICAL COMMITTEE:	Signals Technical Committee (STC)
TOPIC:	Shortening or omitting a pedestrian change interval when transitioning into preemption
STATUS/DATE OF ACTION:	Recommended by Signals Technical Committee 06/20/2012, send to Sponsors
Signals Approval:	June 2012 – 26 FOR, 1 OPPOSED Revised June 2013 - 26 FOR, 1 OPPOSED
Transmitted to Sponsors:	July 2012
Council Approval:	June 28, 2013
ORIGIN OF REQUEST:	Signals Technical Committee
AFFECTED SECTIONS OF MUTCD:	4D.27

SUMMARY:

Section 4D.27 of the MUTCD prohibits the shortening or omission of a pedestrian change interval during priority control and during the transition into or out of priority control (4D.27 paragraph 10 D). It permits the shortening or omission of a pedestrian change interval during the transition into preemption control (4D.27 paragraph 08 B).

This recommendation is to permit the shortening or omission of a pedestrian change interval only when transitioning into preemption operation for boats at movable bridges and for rail traffic to which other traffic is required to yield the right-of-way by law.

The original STC version sent to sponsors specifically prohibited shortening or omitting a pedestrian change interval when transitioning into preemption for an emergency vehicle. During the STC review of sponsor comments and discussion at the June 2013

meeting, buses were noted as another vehicle for which a pedestrian change interval should not be shortened or omitted. Therefore, it was determined it would be more appropriate to specify the conditions under which shortening or omitting a pedestrian change interval was permitted when transitioning into preemption rather than list exclusions such as emergency vehicles.

DISCUSSION

Pedestrian change intervals are generally timed to permit a pedestrian to cross a street at a walking speed of 3.5 feet per second or slower. Many pedestrians are unable to complete crossings in less time. Drivers of emergency vehicles are trained to be alert to the presence of pedestrians who may still be in the travelled way during preemption, and to be prepared to avoid them. Bus drivers should also expect to comply with the displayed signal indication, not assume that it will turn green as they approach. However, other drivers may be unaware that emergency vehicles (or buses) might affect signal operation and possibly alter pedestrian signal timings. Most other drivers, when they see a green signal for their movement, assume that there should no longer be pedestrians in their path and they therefore do not use extra caution as they proceed. Pedestrians that are particularly at risk in this conflict situation include those with limited or reduced mobility, whether due to age or disability, pedestrians that are deaf or that have severe hearing loss and therefore may not be able to hear any warning devices on the approaching vehicle, and pedestrians who are visually impaired and be unable to see the changing signal or the direction and distance of the approaching emergency vehicle.

Ideally, it would not be necessary to shorten or omit a pedestrian change interval when transitioning from normal operation into preemption control. However, it is recognized that it is sometimes necessary to shorten or omit a pedestrian change interval when a train or boat that cannot stop or alter their course is approaching. The MUTCD currently permits a pedestrian change interval to be shortened or omitted when transitioning into preemption control regardless of the reason for the preemption.

Unlike boats and trains, emergency vehicles and buses generally have the ability to slow, stop, or alter their course if necessary to avoid a collision. Therefore, the STC recommends that that MUTCD be revised to permit the shortening or omission of a pedestrian change interval only when transitioning into preemption control for boats at movable bridges and for rail traffic to which other traffic is required to yield the right-of-way by law.

This recommendation only includes changes when transitioning into preemption control. It does not include any changes to signal operation during preemption control, when transitioning out of preemption control, during priority control, or during the transition into or out of priority control.

Furthermore, this recommendation does not include any changes concerning the shortening or omission of a walk interval. Shortening or omitting a walk interval will continue to be allowed when transitioning into preemption for any reason. Therefore, the time required to transition into preemption is not the full walk time plus the pedestrian change time. If a conflicting WALK indication is being displayed when preemption call is received, the the WALK can be terminated at that point or otherwise

shortened. If a conflicting WALK indication is not being displayed when preemption call is received, then the WALK can be omitted.

If a walk interval is not activated, whether it was not activated due to being omitted or due to the lack of a controller call for a walk interval, no pedestrian change interval is needed. So, while the proposed change indicates a pedestrian change interval shall not be omitted except under certain circumstances, that is referring to a pedestrian change interval that would normally be displayed following a walk interval. This recommendation is not intended to require a pedestrian change interval that would not otherwise have been displayed if there was no prior walk interval.

RECOMMENDED CHANGES TO THE MUTCD (Section 4D.27)

Note: Recommended additions to the MUTCD are shown in red underline and recommended deletions are shown in ~~red double strikethrough~~.

Section 4D.27 Preemption and Priority Control of Traffic Control Signals

Option:

Traffic control signals may be designed and operated to respond to certain classes of approaching vehicles by altering the normal signal timing and phasing plan(s) during the approach and passage of those vehicles. The alternative plan(s) may be as simple as extending a currently displayed green interval or as complex as replacing the entire set of signal phases and timing.

Support:

Preemption control (see definition in Section 1A.13) is typically given to trains, boats, emergency vehicles, and light rail transit.

Examples of preemption control include the following:

- A. The prompt displaying of green signal indications at signalized locations ahead of fire vehicles, law enforcement vehicles, ambulances, and other official emergency vehicles;
- B. A special sequence of signal phases and timing to expedite and/or provide additional clearance time for vehicles to clear the tracks prior to the arrival of rail traffic; and
- C. A special sequence of signal phases to display a steady red indication to prohibit turning movements toward the tracks during the approach or passage of rail traffic.

Priority control (see definition in Section 1A.13) is typically given to certain non-emergency vehicles such as light-rail transit vehicles operating in a mixed-use alignment and buses.

Examples of priority control include the following:

- A. The displaying of early or extended green signal indications at an intersection to assist public transit vehicles in remaining on schedule, and
- B. Special phasing to assist public transit vehicles in entering the travel stream ahead of the platoon of traffic.

Some types or classes of vehicles supersede others when a traffic control signal responds to more than one type or class. In general, a vehicle that is more difficult to control supersedes a vehicle that is easier to control.

Option:

Preemption or priority control of traffic control signals may also be a means of assigning priority right-of-way to specified classes of vehicles at certain non-intersection locations such as on approaches to one-lane bridges and tunnels, movable bridges, highway maintenance and construction activities, metered freeway entrance ramps, and transit operations.

Standard:

During the transition into preemption control:

- A. The yellow change interval, and any red clearance interval that follows, shall not be shortened or omitted.**
- B. The shortening or omission of any pedestrian walk interval ~~and/or pedestrian change interval~~ shall be permitted.**
- C. The shortening or omission of any pedestrian change interval shall be permitted only for boats at movable bridges and for rail traffic to which other traffic is required to yield the right-of-way by law.**
- ~~D~~. The return to the previous green signal indication shall be permitted following a steady yellow signal indication in the same signal face, omitting the red clearance interval, if any.**

During preemption control and during the transition out of preemption control:

- A. The shortening or omission of any yellow change interval, and of any red clearance interval that follows, shall not be permitted.**
- B. A signal indication sequence from a steady yellow signal indication to a green signal indication shall not be permitted.**

During priority control and during the transition into or out of priority control:

- A. The shortening or omission of any yellow change interval, and of any red clearance interval that follows, shall not be permitted.**
- B. The shortening of any pedestrian walk interval below that time described in Section 4E.06 shall not be permitted.**
- C. The omission of a pedestrian walk interval and its associated change interval shall not be permitted unless the associated vehicular phase is also omitted or the pedestrian phase is exclusive.**
- D. The shortening or omission of any pedestrian change interval shall not be permitted.**
- E. A signal indication sequence from a steady yellow signal indication to a green signal indication shall not be permitted.**

Guidance:

Except for traffic control signals interconnected with light rail transit systems, traffic control signals with railroad preemption or coordinated with flashing-light signal systems should be provided with a back-up power supply.

When a traffic control signal that is returning to a steady mode from a dark mode (typically upon restoration from a power failure) receives a preemption or priority request, care should be exercised to minimize the possibility of vehicles or pedestrians being misdirected into a conflict with the vehicle making the request.

Option:

During the change from a dark mode to a steady mode under a preemption or priority request, the display of signal indications that could misdirect road users may be prevented by one or more of the following methods:

- A. Having the traffic control signal remain in the dark mode,
- B. Having the traffic control signal remain in the flashing mode,
- C. Altering the flashing mode,
- D. Executing the normal start-up routine before responding, or
- E. Responding directly to initial or dwell period.

Guidance:

If a traffic control signal is installed near or within a grade crossing or if a grade crossing with active traffic control devices is within or near a signalized highway intersection, Chapter 8C should be consulted.

Traffic control signals operating under preemption control or under priority control should be operated in a manner designed to keep traffic moving.

Traffic control signals that are designed to respond under preemption or priority control to more than one type or class of vehicle should be designed to respond in the relative order of importance or difficulty in stopping the type or class of vehicle. The order of priority should be: train, boat, heavy vehicle (fire vehicle, emergency medical service), light vehicle (law enforcement), light rail transit, rubber-tired transit.

Option:

A distinctive indication may be provided at the intersection to show that an emergency vehicle has been given control of the traffic control signal (see Section 11-106 of the “Uniform Vehicle Code”). In order to assist in the understanding of the control of the traffic signal, a common distinctive indication may be used where drivers from different agencies travel through the same intersection when responding to emergencies.

If engineering judgment indicates that light rail transit signal indications would reduce road user confusion that might otherwise occur if standard traffic signal indications were used to control these movements, light rail transit signal indications complying with Section 8C.11 and as illustrated in Figure 8C-3 may be used for preemption or priority control of the following exclusive movements at signalized intersections:

- A. Public transit buses in “queue jumper” lanes, and
- B. Bus rapid transit in semi-exclusive or mixed-use alignments.