

**PART 3. MARKINGS**  
**CHAPTER 7C. MARKINGS**

Markings Technical Committee Recommendations  
Approved by NCUTCD Council June 21, 2008

Yellow highlight indicates recommended changes to the NPA.

7C.01  
Approved by  
NC without  
revisions to  
NPA.

**Section 7C.01 Functions and Limitations**

Support:

Markings have definite and important functions in a proper scheme of school area traffic control. In some cases, they are used to supplement the regulations or warnings provided by other devices, such as traffic signs or signals. In other instances, they are used alone and produce results that cannot be obtained by the use of any other device. In such cases they serve as an effective means of conveying certain regulations, guidance, and warnings that could not otherwise be made clearly understandable.

Pavement markings have some potential limitations. They might be obliterated by snow, might not be clearly visible when wet, and might not be durable when subjected to heavy traffic. In spite of these potential limitations, they have the advantage, under favorable conditions, of conveying warnings or information to the road user without diverting attention from the road.

7C.02  
Approved by  
NC without  
revisions to  
NPA.

**Section 7C.02 Standardization of Application**

**Standard:**

Each **standard** marking described in Part 7 shall be used only to convey the meaning prescribed for it in this Manual.

7C.03

Approved by  
NC with  
revisions to  
NPA.

Approved  
revision  
highlighted in  
yellow.

### **Section 7C.03 Crosswalk Markings**

Support:

Crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops.

In conjunction with signs and other measures, crosswalk markings ~~also serve~~ help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by ~~highway~~ traffic control signals or STOP signs. edited to be consistent with revisions to Section 3B.18

At nonintersection locations, crosswalk markings legally establish the crosswalk.

Section 3B.18 contains information regarding the detectable warning surfaces that are required by 49 CFR, Part 37 and by the Americans with Disabilities Act (ADA) where curb ramps are constructed at the junction of sidewalks and the roadway, for marked and unmarked crosswalks.

**Standard:**

**When ~~transverse~~ crosswalk lines are used, they shall be solid white, marking both edges of the crosswalk, except as noted in the Option. They shall be not less than 150 mm (6 in) or greater than 600 mm (24 in) in width.**

Guidance:

If transverse lines are used to mark a crosswalk, the gap between the lines should not be less than 1.8 m (6 ft). If diagonal or longitudinal lines are used without transverse lines to mark a crosswalk, the crosswalk should be not less than 1.8 m (6 ft) wide.

Crosswalk lines, if used on both sides of the crosswalk, should extend across the full width of pavement or to the edge of the intersecting crosswalk to discourage diagonal walking between crosswalks (see Figures 3B-16 and 3B-18).

Crosswalks should be marked at all intersections on established routes to a school where there is substantial conflict between motorists, bicyclists, and ~~pedestrian~~ student movements; where students are encouraged to cross between intersections; ~~or~~ where students would not otherwise recognize the proper place to cross; or where motorists or bicyclists might not expect students to cross (see Figure 7A-1).

Crosswalk lines should not be used indiscriminately. An engineering study considering the factors described in Section 3B.18 should be performed before ~~they~~ are a marked crosswalk is installed at a locations away from a ~~highway~~ traffic control signals or an approach controlled by a STOP signs.

Because nonintersection school crossings are generally unexpected by the road user, warning signs (see Sections 7B.10 and 7B.11) should be installed for all marked school crosswalks at nonintersection locations. Adequate visibility of students by approaching motorists and of approaching motorists by students should be provided by parking prohibitions or other appropriate measures.

Option:

For added visibility, the area of the crosswalk may be marked with white diagonal lines at a 45-degree angle to the line of the crosswalk or with white longitudinal lines parallel to traffic flow. When diagonal or longitudinal lines are used to mark a crosswalk, the transverse crosswalk lines may be omitted.

Guidance:

If used, the diagonal or longitudinal lines should be 300 to 600 mm (12 to 24 in) wide and spaced 300 to 1500 mm (12 to 60 in) apart. The spacing design should avoid the wheel paths and the spacing should not exceed 2.5 times the line width.

7C.04  
Approved by  
NC without  
revisions to  
NPA.

**Section 7C.04 Stop and Yield Lines** these changes are similar to the changes being made to Section 3B.16 – some of the paragraphs in this Section have been relocated to improve continuity

Guidance:

Stop lines should be used to indicate the point behind which vehicles are required to stop in compliance with a ~~STOP (R1-1) sign (see Figure 2B-1),~~ traffic control signal, ~~or some other traffic control device.~~ relocated to next paragraph

Option:

Stop lines may be used to indicate the point behind which vehicles are required to stop in compliance with a STOP (R1-1) sign (see Figure 2B-1), a Stop Here For Pedestrians (R1-5b or R1-5c) sign (see Figure 2B-2), or some other traffic control device that requires vehicles to stop, except YIELD signs.

Yield lines may be used to indicate the point behind which vehicles are required to yield in compliance with a YIELD (R1-2) sign (see Figure 2B-1) or a Yield Here To Pedestrians (R1-5 or R1-5a) sign (see Figure 2B-2).

**Standard:**

Stop lines shall not be used at locations where drivers are required to yield in compliance with a YIELD (R1-2) sign, a Yield Here To Pedestrians (R1-5 or R1-5a) sign, or at locations on uncontrolled approaches where drivers are required by State law to yield to pedestrians.

Yield lines shall not be used at locations where drivers are required to stop in compliance with a STOP (R1-1) sign, a Stop Here For Pedestrians (R1-5b or R1-5c) sign, a traffic control signal, or some other traffic control device.

~~If used,~~ Stop lines shall consist of solid white lines extending across approach lanes to indicate the point at which the stop is intended or required to be made.

~~If used,~~ Yield lines (see Figure 3B-15) shall consist of a row of solid white isosceles triangles pointing toward approaching vehicles extending across approach lanes to indicate the point at which the yield is intended or required to be made.

Guidance:

Stop lines should be 300 to 600 mm (12 to 24 in) wide.

The individual triangles comprising the yield line should have a base of 300 to 600 mm (12 to 24 in) wide and a height equal to 1.5 times the base. The space between the triangles should be 75 to 300 mm (3 to 12 in).

If used, stop and yield lines should be placed a minimum of 1.2 m (4 ft) in advance of and parallel to the nearest crosswalk line at controlled intersections, except for yield lines at roundabouts ~~intersections~~ as provided for in Section 3C.04 and at midblock crosswalks. In the absence of a marked crosswalk, the stop line or yield line should be placed at the desired stopping or yielding point, but should not be placed ~~ne~~ edited to improve grammar more than 9 m (30 ft) or less than 1.2 m (4 ft) from the nearest edge of the intersecting traveled way. ~~Stop lines should be placed to allow sufficient sight distance to all other approaches to an intersection.~~

Stop lines at midblock signalized locations should be placed at least 12 m (40 ft) in advance of the nearest signal indication (see Section 4D.14).

Support:

When drivers ~~who~~ yield too close to crosswalks ~~on~~ that cross uncontrolled multi-lane approaches, they place pedestrians at risk by blocking other drivers' views of pedestrians and by blocking pedestrians' views of vehicles approaching in other lanes.  
relocated within this Section

Guidance:

If yield lines are used at ~~an unsignalized midblock~~ a crosswalk that crosses an uncontrolled multi-lane approach, the yield lines should be placed ~~adjacent to the Yield Here to Pedestrians sign located~~ 6.1 to 15 m (20 to 50 ft) in advance of the nearest crosswalk line, and parking should be prohibited in the area between the yield line and the crosswalk (see Figure 3B-16).

Yield (stop) lines and Yield Here To (Stop Here For) Pedestrians signs should not be used in advance of crosswalks that cross an approach to or departure from a roundabout.

Standard:

Yield Here To (Stop Here For) Pedestrians (R1-5 series) signs (see Figure 2B-2) shall be used if yield (stop) lines are used at a crosswalk that crosses an uncontrolled multi-lane approach.

7C.05

Approved by  
NC without  
revisions to  
NPA.

## **Section 7C.05 Curb Markings for Parking Regulations**

### **Standard:**

~~Signs shall be used with curb markings~~ Where curbs are marked to convey parking regulations in ~~those~~ areas where curb markings are frequently obliterated by snow and ice accumulation, signs shall be used with the curb markings except as noted in the Option below ~~unless the no-parking zone is controlled by statute or local ordinance.~~

### **Guidance:**

Except as noted in the Option below, when curb markings are used without signs to convey parking regulations, a legible word marking regarding the regulation (such as “No Parking” or “No Standing”) should be placed on the curb.

### **Option:**

Curb markings without word markings or signs may be used to convey a general prohibition by statute of parking within a specified distance of a STOP sign, driveway, fire hydrant, or crosswalk.

Local highway agencies may prescribe special colors for curb markings to supplement standard signs for parking regulation.

### **Support:**

Since yellow and white curb markings are frequently used for curb delineation and visibility, it is advisable to establish parking regulations through the installation of standard signs (see Sections 2B.53 through 2B.55).

7C.06

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NC without  
revisions to  
NPA.

## **Section 7C.06 Pavement Word and Symbol Markings**

Support:

Word, ~~and~~ symbol, and arrow markings on the pavement are used for the purpose of guiding, warning, or regulating traffic. These pavement markings can be helpful to road users in some locations by supplementing signs and providing additional emphasis for important regulatory, warning, or guidance messages, because the markings do not require diversion of the road user's attention from the roadway surface. Symbol messages are preferable to word messages.

**Standard:**

Word, ~~and~~ symbol, and arrow markings shall be white. Word, ~~and~~ symbol, and arrow markings shall not be used for mandatory messages except in support of standard signs.

All letters, numerals, and symbols ~~should~~ shall be installed in accordance with the design details in the Pavement Markings chapter of the ~~Federal Highway Administration's~~ deleted to increase consistency "Standard Highway Signs and Markings" book (see Section 1A.11).

Guidance:

Letters and numerals should be 1.8 m (6 ft) or more in height.

Word and symbol markings should not exceed three lines of information.

If a pavement marking word message consists of more than one line of information, it should read in the direction of travel. The first word of the message should be nearest to the road user.

The longitudinal space between word or symbol message markings, including arrow markings, should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters under any conditions.

The number of different word and symbol markings used should be minimized to provide effective guidance and avoid misunderstanding.

Except ~~as noted in the Option below~~ for the SCHOOL word marking, pavement word and symbol markings should be no more than one lane in width.

Option:

If used, the SCHOOL word marking may extend to the width of two approach lanes (see Figure 7C-1).

Guidance:

If the two-lane SCHOOL word marking is used, the letters should be 3 m (10 ft) or more in height.