

## CHAPTER 7A. GENERAL

### Section 7A.01 Need for Standards

Support:

Regardless of the school location, the best way to achieve effective traffic control in a manner that is intended to minimize the occurrences of crashes is through the uniform application of realistic policies, practices, and standards developed through engineering judgment or studies.

Pedestrian safety depends upon public understanding of accepted methods for efficient traffic control. This principle is especially important in the control of pedestrians, bicycles, and other vehicles in the vicinity of schools. Neither pedestrians on their way to or from school nor other road users can be expected to move safely in school areas unless they understand both the need for traffic controls and how these controls function for their benefit.

Procedures and devices that are not uniform might cause confusion among pedestrians and other road users, prompt wrong decisions, and contribute to crashes. To achieve uniformity of traffic control in school areas, comparable traffic situations need to be treated in a consistent manner. Each traffic control device and control method described in Part 7 fulfills a specific function related to specific traffic conditions.

A uniform approach to school area traffic controls assures the use of similar controls for similar situations, which promotes appropriate and uniform behavior on the part of motorists, pedestrians, and bicyclists.

A school traffic control plan permits the orderly review of school area traffic control needs, and the coordination of school/pedestrian safety education and engineering solutions. Engineering solutions alone will often not prompt the intended change in student and road user behavior.

Guidance:

A school route plan for each school serving elementary to high school students should be prepared in order to develop uniformity in the use of school area traffic controls and to serve as the basis for a school traffic control plan for each school.

The school route plan, developed in a systematic manner by the school, law enforcement, and traffic officials responsible for school pedestrian safety, should consist of a map (see Figure 7A-1) showing streets, the school, existing traffic controls, established school walk routes, and established school crossings.

The type(s) of school area traffic control devices used, either warning or regulatory, should be related to the volume and speed of vehicular traffic, street width, and the number and age of the students using the crossing.

School area traffic control devices should be included in a school traffic control plan.

Support:

Reduced speed limit signs for school areas and crossings are included in this Manual solely for the purpose of standardizing signing for these zones and not as an endorsement of mandatory reduced speed zones.

### Section 7A.02 School Routes and Established School Crossings

Support:

To establish a safer route to and from school for schoolchildren, the application of planning criterion for school walk routes might make it necessary for children to walk an indirect route to an established school crossing located where there is existing traffic control and to avoid the use of a direct crossing where there is no existing traffic control.

Guidance:

School walk routes should be planned to take advantage of existing traffic controls.

The following factors should be considered when determining the feasibility of requiring children to walk a longer distance to a crossing with existing traffic control:

- A. The availability of adequate sidewalks or off-roadway sidewalk areas to and from the location with existing control,
- B. The number of students using the crossing,
- C. The age levels of the students using the crossing, and
- D. The total extra walking distance.

1 **Section 7A.03 School Crossing Control Criteria**

2 Support:

3 The frequency of gaps in the traffic stream that are sufficient for student crossing is different at each  
4 crossing location. When the delay between the occurrences of adequate gaps becomes excessive, students  
5 might become impatient and endanger themselves by attempting to cross the street during an inadequate gap.  
6 In these instances, the creation of sufficient gaps needs to be considered to accommodate the crossing  
7 demand.

8 A recommended method for determining the frequency and adequacy of gaps in the traffic stream is given  
9 in the “Traffic Control Devices Handbook” (see Section 1A.11).

10 **Section 7A.04 Scope**

11 **Standard:**

12 **Part 7 sets forth basic principles and prescribes standards that shall be followed in the design,**  
13 **application, installation, and maintenance of all traffic control devices (including signs, signals, and**  
14 **markings) and other controls (including adult crossing guards, student patrols, and grade-separated**  
15 **crossings) required for the special pedestrian conditions in school areas.**

16 Support:

17 The introduction to this Manual contains information regarding the meaning of the headings Standard,  
18 Guidance, Option, and Support, and the use of the words “shall,” “should,” and “may.”

19 Sections 1A.01 and 1A.08 contain information regarding unauthorized devices and messages. Sections  
20 1A.02 and 1A.07 contain information regarding the application of standards. Section 1A.05 contains  
21 information regarding the maintenance of traffic control devices. Section 1A.08 contains information  
22 regarding placement authority for traffic control devices. Section 1A.09 contains information regarding  
23 engineering studies.

24 Provisions discussed in Chapter 2A and Section 2B.06 are applicable in school areas.

25 Part 3 contains provisions regarding pavement markings that are applicable in school areas.

26 Part 4 provisions regarding highway traffic signals that are applicable in school areas. The School  
27 Crossing signal warrant is described in Section 4C.06.

28 **Section 7A.05 Grade-Separated School Crossings**

29 Support:

30 Grade-separated crossings (overpasses over the highway or underpasses under the highway) are  
31 sometimes used to physically separate the crossing of school pedestrian traffic and vehicular flow.  
32 Experience has shown that overpasses are more satisfactory than underpasses for school pedestrian crossings,  
33 as overpasses are easier to maintain and supervise.

34 If using the grade-separated crossing will be less convenient to school pedestrians than making an at-  
35 grade crossing, barriers or supervision are sometimes provided to assure a satisfactory level of use of the  
36 grade-separated crossing.

37 The published policies of the American Association of State Highway and Transportation Officials, such  
38 as “A Policy on Geometric Design of Highways and Streets” (see Section 1A.11), contain guidelines for the  
39 design of grade-separated crossings.

## CHAPTER 7B. SIGNS

### Section 7B.01 Size of School Signs

#### Standard:

Except as noted in Section 2A.11, the sizes of signs and plaques to be used on conventional roadways in school areas shall be as shown in Table 7B-1.

The sizes in the conventional road column shall be used unless engineering judgment determines that a minimum or oversized sign size would be more appropriate.

The sizes in the minimum column, which is applicable only to the School (S1-1), SCHOOL BUS STOP AHEAD (S3-1), SCHOOL BUS TURN AHEAD (S3-2), and Reduced Speed School Zone Ahead (S4-5, S4-5a) signs, shall only be used on local residential streets, in urban areas, and where there are low traffic volumes and the 85<sup>th</sup>-percentile speed or posted speed limit is less than 60 km/h (35 mph), as determined by engineering judgment.

The sizes in the oversized column shall be used on expressways.

#### Option:

The sizes in the oversized column may be used for applications that require increased emphasis, improved recognition, or increased legibility.

Signs and plaques larger than those shown in Table 7B-1 may be used (see Section 2A.11).

### Section 7B.02 Illumination and Reflectorization

#### Standard:

The signs used for school area traffic control shall be retroreflectorized or illuminated.

### Section 7B.03 Position of Signs

#### Guidance:

Signs should be placed in positions where they will convey their messages most effectively without restricting lateral offset or sight distances. Placement therefore should consider highway design, alignment, vehicle speed, roadside development, pedestrians, and other non-motorized road users.

Signs should have a reasonable lateral offset from the edge of the traveled way for the safety of vehicles that might leave the roadway and strike the sign supports. Except as noted in the Option below, signs should not be closer than 1.8 m (6 ft) from the edge of a paved shoulder, or if none, 3.7 m (12 ft) from the edge of the traveled way.

#### Option:

In urban areas, a lesser lateral offset of not less than 0.6 m (2 ft) from the face of the curb may be used. In urban areas, where sidewalk width is limited or existing poles are close to the curb, a lateral offset of 0.3 m (1 ft) from the curb face may be used.

In-roadway signs for school traffic control areas may be used consistent with the requirements of Sections 2B.12, 7B.08, and 7B.11.

### Section 7B.04 Height of Signs

#### Support:

Section 2A.18 contains information regarding the mounting height of signs.

### Section 7B.05 Installation of Signs

#### Support:

Section 2A.16 contains information regarding the installation of signs.

### Section 7B.06 Lettering

#### Support:

The "Standard Highway Signs and Markings" book (see Section 1A.11) contains information regarding sign lettering.

### Section 7B.07 Sign Color for School Warning Signs

1 **Standard:**

2 **School warning signs, including the “SCHOOL” portion of the School Speed Limit (S5-1) sign, and**  
3 **any supplemental plaques used in association with these signs shall have a fluorescent yellow-green**  
4 **background with a black legend and border unless otherwise stated in this Manual for a specific sign.**

5 **Section 7B.08 School Sign (S1-1)**

6 Support:

7 Many state and local jurisdictions find it beneficial to advise road users that they are approaching a school  
8 that is adjacent to a highway, where additional care is needed, even though no school crossing is involved and  
9 the speed limit remains unchanged. Additionally, some jurisdictions designate school zones that have a  
10 unique legal standing in that fines for speeding or other traffic violations within designated school zones are  
11 increased or special enforcement techniques such as photo radar systems are used. It is important and  
12 sometimes legally necessary to mark the beginning and end points of these designated school zones so that the  
13 road user is given proper notice.

14 The School (S1-1) sign (see Figure 7B-1) has the following three applications:

- 15 A. School Area or Zone – if used alone, the S1-1 sign warns road users that they are approaching school  
16 buildings or grounds, a school crossing, or school related activity adjacent to the highway, and it  
17 marks the beginning of a designated school zone (see Figure 7B-2).
- 18 B. School Advance Crossing – if combined with an AHEAD (W16-9P) plaque or an XX METERS  
19 (FEET) (W16-2P or W16-2aP) plaque to comprise the School Advance Crossing assembly, the S1-1  
20 sign warns road users that they are approaching a crossing where schoolchildren cross the roadway  
21 (see Figure 7B-3).
- 22 C. School Crossing – if combined with a downward diagonal pointing arrow (W16-7P) plaque to  
23 comprise the School Crossing assembly, the S1-1 sign warns approaching road users of the location of  
24 a crossing where schoolchildren cross the roadway (see Figures 7B-3 and 7B-4).

25 **Section 7B.09 School Area or School Zone Sign**

26 Option:

27 The School (S1-1) sign may be installed in advance of locations where school buildings or grounds are  
28 adjacent to the highway to warn road users that they are approaching a school area.

29 **Standard:**

30 **If a school zone has been designated under State or local statute, a School (S1-1) sign shall be**  
31 **installed to mark the beginning point(s) of the designated school zone (see Figure 7B-2).**

32 **If a reduced speed zone for a school area has been established, a School (S1-1) sign shall be installed**  
33 **in advance (see Table 2C-4 for advance placement guidelines) of the first School Speed Limit sign**  
34 **assembly or S5-1 sign that is encountered in each direction as traffic approaches the reduced speed zone**  
35 **(see Figure 7B-4).**

36 Option:

37 A School (S1-1) sign that is installed to warn road users of a school area or a school zone (see Figure 7B-  
38 2) may be supplemented with a SCHOOL (S4-3P) plaque or an appropriate enforcement sign or plaque, such  
39 as a FINES HIGHER, FINES DOUBLE, or \$XX FINE plaque (see Section 2B.17).

40 If a school area or school zone is located on a cross street less than 38 m (125 ft) from edge of a street or  
41 highway, a School (S1-1) sign with a supplemental arrow (W16-5P or W16-6P) plaque may be installed on  
42 each approach of the street or highway to warn road users making a turn onto the cross street that they will  
43 encounter a school area or school zone soon after making the turn.

44 **Section 7B.10 School Advance Crossing Assembly**

45 **Standard:**

46 **The School Advance Crossing assembly (see Figure 7B-1) shall consist of a School (S1-1) sign**  
47 **supplemented with an AHEAD (W16-9P) plaque or an XX METERS (FEET) (W16-2P or W16-2aP)**  
48 **plaque.**

49 **Except as noted in the Option below, a School Advance Crossing assembly shall be used in advance**  
50 **(see Table 2C-4 for advance placement guidelines) of the first School Crossing assembly (see Section**  
51 **7B.11) that is encountered in each direction as traffic approaches a school crosswalk (see Figure 7B-3).**

1 Option:

2 The School Advance Crossing assembly may be omitted (see Figure 7B-4) where a School (S1-1) sign  
3 (see Section 7B.09) is installed in advance of the School Crossing assembly.

4 If a school crosswalk is located on a cross street less than 38 m (125 ft) from edge of a street or highway,  
5 a School Advance Crossing assembly with a supplemental arrow (W16-5P or W16-6P) plaque may be  
6 installed on each approach of the street or highway to warn road users making a turn onto the cross street that  
7 they will encounter a school crosswalk soon after making the turn.

8 A 300 mm (12 in) reduced size in-street School (S1-1) sign (see Figure 7B-5), installed in compliance  
9 with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6 or R1-6a) signs  
10 (see Section 2B.12), may be used in advance of a school crossing to supplement the post-mounted school  
11 warning signs. A 300 x 150 mm (12 x 6 in) reduced size AHEAD (W16-9P) plaque may be mounted below  
12 the reduced size in-street School (S1-1) sign.

### 13 **Section 7B.11 School Crossing Assembly**

#### 14 **Standard:**

15 **If used, the School Crossing assembly (see Figure 7B-1) shall be installed at the school crossing (see**  
16 **Figures 7B-3 and 7B-4), or as close to it as possible, and shall consist of a School (S1-1) sign**  
17 **supplemented with a diagonal downward pointing arrow (W16-7P) plaque to show the location of the**  
18 **crossing.**

19 **The School Crossing assembly shall not be used at crossings other than those adjacent to schools**  
20 **and those on established school pedestrian routes.**

21 **The School Crossing assembly shall not be installed on approaches controlled by a STOP sign.**

22 Option:

23 The In-Street Pedestrian Crossing (R1-6 or R1-6a) sign (see Section 2B.12 and Figure 7B-5) or the In-  
24 Street Schoolchildren Crossing (R1-6b or R1-6c) sign (see Figure 7B-5) may be used at unsignalized school  
25 crossings. If used at a school crossing, a 300 x 100 mm (12 x 4 in) SCHOOL (S4-3P) plaque (see Figure 7B-  
26 5) may be mounted above the sign.

27 The Overhead Pedestrian Crossing (R1-9 or R1-9a) sign (see Section 2B.12 and Figure 2B-2) may be  
28 used at unsignalized school crossings.

29 A 300 mm (12 in) reduced size in-street School (S1-1) sign (see Figure 7B-5) may be used at an  
30 unsignalized school crossing instead of the In-Street Pedestrian Crossing (R1-6 or R1-6a) or the In-Street  
31 Schoolchildren Crossing (R1-6b or R1-6c) sign. A 300 x 150 mm (12 x 6 in) reduced size diagonal  
32 downward pointing arrow (W16-7P) plaque may be mounted below the reduced size in-street School (S1-1)  
33 sign.

#### 34 **Standard:**

35 **If an In-Street Pedestrian Crossing sign, an In-Street Schoolchildren Crossing sign, or a reduced**  
36 **size in-street School (S1-1) sign is placed in the roadway, the sign support shall comply with the**  
37 **mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6 or R1-6a) signs**  
38 **(see Section 2B.12).**

39 **The In-Street Pedestrian Crossing sign, the In-Street Schoolchildren Crossing sign, the Overhead**  
40 **Pedestrian Crossing sign, and the reduced size in-street School (S1-1) sign shall not be used at signalized**  
41 **locations.**

### 42 **Section 7B.12 School Bus Stop Ahead Sign (S3-1)**

43 Guidance:

44 The School Bus Stop Ahead (S3-1) sign (see Figure 7B-1) should be installed in advance of locations  
45 where a school bus, when stopped to pick up or discharge passengers, is not visible to road users for a distance  
46 as determined by the "0" column under Condition B of Table 2C-4, and where there is no opportunity to  
47 relocate the school bus stop to provide the distance specified in Table 2C-4.

### 48 **Section 7B.13 SCHOOL BUS TURN AHEAD Sign (S3-2)**

49 Option:

50 The SCHOOL BUS TURN AHEAD (S3-2) sign (see Figure 7B-1) may be installed in advance of  
51 locations where a school bus turns around on a roadway at a location not visible to approaching road users for

1 a distance as determined by the “0” column under Condition B of Table 2C-4, and where there is no  
2 opportunity to relocate the school bus turn around to provide the distance specified in Table 2C-4.

### 3 **Section 7B.14 School Speed Limit Assembly (S4-1P, S4-2P, S4-3P, S4-4P, S4-6P, S5-1)**

#### 4 **Standard:**

5 A School Speed Limit assembly (see Figure 7B-1) or a School Speed Limit (S5-1) sign (see Figure  
6 7B-1) shall be used to indicate the speed limit where a reduced speed zone for a school area has been  
7 established based upon an engineering study or where a speed limit is specified for such areas by  
8 statute. The School Speed Limit assembly or School Speed Limit sign shall be placed at or as near as  
9 practical to the point where the reduced speed zone begins (see Figure 7B-4).

#### 10 **Guidance:**

11 The reduced speed zone should begin either at a point 60 m (200 ft) from the crosswalk, or at a point 30 m  
12 (100 ft) from the school property line, based on whichever is encountered first as traffic approaches the  
13 school.

#### 14 **Standard:**

15 The School Speed Limit assembly shall be either a fixed-message sign assembly or a changeable  
16 message sign.

17 The fixed-message School Speed Limit assembly shall consist of a top plaque (S4-3P) with the  
18 legend SCHOOL, a Speed Limit (R2-1) sign, and a bottom plaque (S4-1P, S4-2P, S4-4P, or S4-6P)  
19 indicating the specific periods of the day and/or days of the week that the special school speed limit is in  
20 effect (see Figure 7B-1).

#### 21 **Option:**

22 Changeable message signs (see Chapter 2M and Section 6F.57) may be used to inform drivers of the  
23 school speed limit. If the sign is internally illuminated, it may have a white legend on a black background.  
24 Changeable message signs with flashing beacons may be used for situations where greater emphasis of the  
25 special school speed limit is needed.

#### 26 **Guidance:**

27 Even though it might not always be practical because of special features to make changeable message  
28 signs conform in all respects to the standards in this Manual for fixed-message signs, during the periods that  
29 the school speed limit is in effect, their basic shape, message, legend layout, and colors should comply with  
30 the standards for fixed-message signs.

31 A confirmation light or device to indicate that the speed limit message is in operation should be  
32 considered for inclusion on the back of the changeable message sign.

#### 33 **Standard:**

34 Fluorescent yellow-green pixels shall be used when the “SCHOOL” message is displayed on a  
35 changeable message sign for a school speed limit.

#### 36 **Option:**

37 Changeable message signs may use blank-out messages or other methods in order to display the school  
38 speed limit only during the periods it applies.

39 Changeable message signs that display the speed of approaching drivers (see Section 2B.13) may be used  
40 in a school speed limit zone.

41 A Speed Limit Sign Beacon (see Section 4L.04) also may be used, with a WHEN FLASHING legend, to  
42 identify the periods that the school speed limit is in effect. The signal indications of the Speed Limit Sign  
43 Beacon may be positioned within the face of the School Speed Limit (S5-1) sign (see Figure 7B-1).

44 A FINES HIGHER, FINES DOUBLE, or \$XX FINE plaque (see Section 2B.17) may be used to advise  
45 road users when increased fines are imposed for traffic violations in school zones.

### 46 **Section 7B.15 Reduced School Speed Limit Ahead Sign (S4-5, S4-5a)**

#### 47 **Option:**

48 The Reduced School Speed Limit Ahead (S4-5, S4-5a) sign (see Figure 7B-1) may be used to inform road  
49 users of a reduced speed zone when engineering judgment indicates that advance notice would be appropriate.

#### 50 **Standard:**

1       **If used, the Reduced School Speed Limit Ahead sign shall be followed by a School Speed Limit sign**  
2 **or a School Speed Limit assembly.**

3       **The speed limit displayed on the Reduced School Speed Limit Ahead sign shall be identical to the**  
4 **speed limit displayed on the subsequent School Speed Limit sign or School Speed Limit assembly.**

5       **Section 7B.16 END SCHOOL ZONE Sign (S5-2)**

6       **Standard:**

7       **The downstream end of a designated school area or school zone (see Section 7B.09) shall be marked**  
8 **with an END SCHOOL ZONE (S5-2) sign (see Figures 7B-1 and 7B-2).**

9       **The downstream end of an authorized and posted school speed zone shall be marked with an END**  
10 **SCHOOL ZONE (S5-2) sign (see Figures 7B-1 and 7B-4). A standard Speed Limit sign showing the**  
11 **speed limit for the section of highway that is downstream from the authorized and posted school speed**  
12 **zone shall be mounted on the same post as the END SCHOOL ZONE (S5-2) sign.**

13       **Section 7B.17 Parking and Stopping Signs (R7 and R8 Series)**

14       **Option:**

15       **Parking and stopping regulatory signs may be used to prevent parked or waiting vehicles from blocking**  
16 **pedestrians' views, and drivers' views of pedestrians, and to control vehicles as a part of the school traffic**  
17 **plan.**

18       **Support:**

19       **Parking signs and other signs governing the stopping and standing of vehicles in school areas cover a**  
20 **wide variety of regulations. Typical examples of regulations are as follows:**

- 21       **A. No Parking X:XX AM to X:XX PM School Days Only,**
- 22       **B. No Stopping X:XX AM to X:XX PM School Days Only,**
- 23       **C. XX Min Loading X:XX AM to X:XX PM School Days Only, and**
- 24       **D. No Standing X:XX AM to X:XX PM School Days Only.**

25       **Sections 2B.53, 2B.54, and 2B.55 contain information regarding the signing of parking regulations in**  
26 **school zone areas.**

## CHAPTER 7C. MARKINGS

### 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.

### Section 7C.02 Standardization of Application

**Standard:**

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

### 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 help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP signs.

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 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 student movements; where students are encouraged to cross between intersections; 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 a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP sign.

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.



1 Option:

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

5 Guidance:

6 If used, the diagonal or longitudinal lines should be 300 to 600 mm (12 to 24 in) wide and spaced 300 to  
7 1500 mm (12 to 60 in) apart. The spacing design should avoid the wheel paths, and the spacing should not  
8 exceed 2.5 times the line width.

## 9 **Section 7C.04 Stop and Yield Lines**

10 Guidance:

11 Stop lines should be used to indicate the point behind which vehicles are required to stop in compliance  
12 with a traffic control signal.

13 Option:

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

17 Yield lines may be used to indicate the point behind which vehicles are required to yield in compliance  
18 with a YIELD (R1-2) sign (see Figure 2B-1) or a Yield Here To Pedestrians (R1-5 or R1-5a) sign (see Figure  
19 2B-2).

20 **Standard:**

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

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

27 **Stop lines shall consist of solid white lines extending across approach lanes to indicate the point at**  
28 **which the stop is intended or required to be made.**

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

32 Guidance:

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

34 The individual triangles comprising the yield line should have a base of 300 to 600 mm (12 to 24 in) wide  
35 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).

36 If used, stop and yield lines should be placed a minimum of 1.2 m (4 ft) in advance of and parallel to the  
37 nearest crosswalk line at controlled intersections, except for yield lines at roundabouts as provided for in  
38 Section 3C.04 and at midblock crosswalks. In the absence of a marked crosswalk, the stop line or yield line  
39 should be placed at the desired stopping or yielding point, but should not be placed more than 9 m (30 ft) or  
40 less than 1.2 m (4 ft) from the nearest edge of the intersecting traveled way.

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

43 Support:

44 When drivers yield too close to crosswalks that cross uncontrolled multi-lane approaches, they place  
45 pedestrians at risk by blocking other drivers' views of pedestrians and by blocking pedestrians' views of  
46 vehicles approaching in other lanes.

47 Guidance:

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

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

3 **Standard:**

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

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

7 **Standard:**

8 **Where curbs are marked to convey parking regulations in areas where curb markings are**  
9 **frequently obliterated by snow and ice accumulation, signs shall be used with the curb markings except**  
10 **as noted in the Option below.**

11 **Guidance:**

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

15 **Option:**

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

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

20 **Support:**

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

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

25 **Support:**

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

31 **Standard:**

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

34 **All letters, numerals, and symbols shall be installed in accordance with the design details in the**  
35 **Pavement Markings chapter of the “Standard Highway Signs and Markings” book (see Section 1A.11).**

36 **Guidance:**

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

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

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

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

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

46 Except for the SCHOOL word marking, pavement word and symbol markings should be no more than  
47 one lane in width.

48 **Option:**

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

50 **Guidance:**

1  
2

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

1           **CHAPTER 7D. CROSSING SUPERVISION**

2   **Section 7D.01 Types of Crossing Supervision**

3   Support:

4       There are three types of school crossing supervision:

- 5       A. Adult control of pedestrians and vehicles by adult crossing guards,
- 6       B. Adult control of pedestrians and vehicles by uniformed law enforcement officers, and
- 7       C. Student control of only pedestrians with student patrols.

8       Information regarding the organization, administration, and operation of a school safety patrol program is  
9   contained in the “AAA School Safety Patrol Operations Manual” (see Section 1A.11).

10   **Section 7D.02 Adult Crossing Guards**

11   Option:

12       Adult crossing guards may be used to provide gaps in traffic at school crossings where an engineering  
13   study has shown that adequate gaps need to be created (see Section 7A.03), and where authorized by law.

14   **Section 7D.03 Qualifications of Adult Crossing Guards**

15   Support:

16       High standards for selection of adult crossing guards are essential because they are responsible for  
17   schoolchildren within and in the immediate vicinity of school crosswalks.

18   Guidance:

19       Adult crossing guards should possess the following minimum qualifications:

- 20       A. Average intelligence;
- 21       B. Good physical condition, including sight, hearing, and ability to move and maneuver quickly in order  
22       to avoid danger from errant vehicles;
- 23       C. Ability to control a STOP paddle effectively to provide approaching road users with a clear, fully  
24       direct view of the paddle’s STOP message during the entire crossing movement;
- 25       D. Ability to communicate specific instructions clearly, firmly, and courteously;
- 26       E. Ability to recognize potentially dangerous traffic situations and warn and manage students in  
27       sufficient time to avoid injury.
- 28       F. Mental alertness;
- 29       G. Neat appearance;
- 30       H. Good character;
- 31       I. Dependability; and
- 32       J. An overall sense of responsibility for the safety of students.

33   **Section 7D.04 Uniform of Adult Crossing Guards**

34   Standard:

35       **Law enforcement officers performing school crossing supervision and adult crossing guards shall**  
36   **wear high-visibility retroreflective safety apparel labeled as ANSI 107-2004 standard performance for**  
37   **Class 2 as described in Section 6E.02.**

38   **Section 7D.05 Operating Procedures for Adult Crossing Guards**

39   Standard:

40       **Adult crossing guards shall not direct traffic in the usual law enforcement regulatory sense. In the**  
41   **control of traffic, they shall pick opportune times to create a sufficient gap in the traffic flow. At these**  
42   **times, they shall stand in the roadway to indicate that pedestrians are about to use or are using the**  
43   **crosswalk, and that all vehicular traffic must stop.**

44       **Adult crossing guards shall use a STOP paddle. The STOP paddle shall be the primary hand-**  
45   **signaling device.**

46       **The STOP (R1-1) paddle shall be an octagonal shape. The background of the STOP face shall be**  
47   **red with at least 150 mm (6 in) series upper-case white letters and border. The paddle shall be at least**  
48   **450 mm (18 in) in size and have the word message STOP on both sides. The paddle shall be**  
49   **retroreflectorized or illuminated when used during hours of darkness.**

1 Option:

2 The STOP paddle may be modified to improve conspicuity by incorporating white or red flashing lights  
3 on both sides of the paddle. The red or white flashing lights may be arranged in any of the following patterns:

- 4 A. Two white or red lights centered vertically above and below the STOP legend,  
5 B. Two white or red lights centered horizontally on each side of the STOP legend,  
6 C. One white or red light centered below the STOP legend,  
7 D. A series of eight or more small white or red lights no larger than 6 mm (0.25 in) in diameter along the  
8 outer edge of the paddle, arranged in an octagonal pattern at the eight corners of the STOP paddle  
9 (more than eight lights may be used only if the arrangement of the lights is such that it clearly conveys  
10 the octagonal shape of the STOP paddle), or  
11 E. A series of white lights forming the shapes of the letters in the legend.

12 **Standard:**

13 **If flashing lights are used on the STOP paddle, the flash rate shall be at least 50, but not more than**  
14 **60, flash periods per minute.**

15

1 CHAPTER 7A. GENERAL

2 **Section 7A.01 Need for Standards**

3 Support:

4 ~~It is important to stress that~~ Regardless of the school location, the best way to achieve ~~reasonably safe and~~  
5 effective traffic control in a manner that is intended to minimize the occurrences of crashes is through the  
6 uniform application of realistic policies, practices, and standards developed through engineering judgment or  
7 studies.

8 Pedestrian safety depends upon public understanding of accepted methods for efficient traffic control.  
9 This principle is especially important in the control of pedestrians, bicycles, and other vehicles in the vicinity  
10 of schools. Neither pedestrians on their way to or from school nor other road users can be expected to move  
11 safely in school areas unless they understand both the need for traffic controls and how these controls function  
12 for their benefit.

13 Procedures and devices that are not uniform might cause confusion among pedestrians and other road  
14 users, prompt wrong decisions, and contribute to crashes. To achieve uniformity of traffic control in school  
15 areas, comparable traffic situations need to be treated in a consistent manner. Each traffic control device and  
16 control method described in Part 7 fulfills a specific function related to specific traffic conditions.

17 A uniform approach to school area traffic controls assures the use of similar controls for similar situations,  
18 ~~(which promotes~~ appropriate and uniform behavior on the part of motorists, pedestrians, and bicyclists).

19 A school traffic control plan permits the orderly review of school area traffic control needs, and the  
20 coordination of school/pedestrian safety education and engineering ~~activities~~ solutions. Engineering solutions  
21 alone will often not prompt the intended change in student and road user behavior.

22 Guidance:

23 A school route plan for each school serving elementary to high school students should be prepared in  
24 order to develop uniformity in the use of school area traffic controls and to serve as the basis for a school  
25 traffic control plan for each school.

26 The school route plan, developed in a systematic manner by the school, law enforcement, and traffic  
27 officials responsible for school pedestrian safety, should consist of a map (see Figure 7A-1) showing streets,  
28 the school, existing traffic controls, established school walk routes, and established school crossings.

29 The type(s) of school area traffic control devices used, either warning or regulatory, should be related to  
30 the volume and speed of vehicular traffic, street width, and the number and age of the students using the  
31 crossing.

32 School area traffic control devices should be included in a school traffic control plan.

33 Support:

34 Reduced speed limit signs for school areas and crossings are included in this Manual solely for the  
35 purpose of standardizing signing for these zones and not as an endorsement of mandatory reduced speed  
36 zones.

37 **Section 7A.02 School Routes and Established School Crossings**

38 Support:

39 To establish a safer route to and from school for schoolchildren, the application of ~~The~~ planning criterion  
40 for school walk routes might make it necessary for children to walk an indirect route to an established school  
41 crossing located where there is existing traffic control and to avoid the use of a direct crossing where there is  
42 no existing traffic control.

43 Guidance:

44 School walk routes should be planned to take advantage of existing traffic controls.

45 The following factors should be considered when determining the feasibility of requiring children to walk  
46 a longer distance to a crossing with existing traffic control:

- 47 A. The availability of adequate sidewalks or off-roadway sidewalk areas to and from the location with
- 48 existing control,
- 49 B. The number of students using the crossing,
- 50 C. The age levels of the students using the crossing, and
- 51 D. The total extra walking distance.

1 **Section 7A.03 School Crossing Control Criteria**

2 Support:

3 ~~Alternate~~ The frequency of gaps and blockades are inherent in the traffic stream that are sufficient for  
4 student crossing and are is different at each crossing location. ~~For safety, students need to wait for a gap in~~  
5 ~~traffic that is of sufficient duration to permit reasonably safe crossing.~~ When the delay between the  
6 occurrences of adequate gaps becomes excessive, students might become impatient and endanger themselves  
7 by attempting to cross the street during an inadequate gap. In these instances, the creation of sufficient gaps  
8 needs to be considered to accommodate the crossing demand.

9 A recommended method for determining the frequency and adequacy of gaps in the traffic stream is given  
10 in the ~~Institute of Transportation Engineers' publication, "School Trip Safety Program Guidelines"~~ "Traffic  
11 Control Devices Handbook" (see Section 1A.11).

12 **Section 7A.04 Scope**

13 Standard:

14 Part 7 sets forth basic principles and prescribes standards that shall be followed in the design,  
15 application, installation, and maintenance of all traffic control devices (including signs, signals, and  
16 markings) and other controls (including adult crossing guards, student patrols, and grade-separated  
17 crossings) required for the special pedestrian conditions in school areas.

18 ~~Option:~~

19 ~~In roadway signs for school traffic control areas may be used consistent with the requirements of Sections~~  
20 ~~2B.12, 7B.08, and 7B.09.~~ **relocated to Section 7B.03**

21 Support:

22 The introduction to this Manual contains information regarding the meaning of the headings Standard,  
23 Guidance, Option, and Support, and the use of the words "shall," "should," and "may." **relocated from Section**  
24 **7A.10**

25 Sections 1A.01 and 1A.08 contain information regarding unauthorized devices and messages. Sections  
26 1A.02 and 1A.07 contain information regarding the application of standards. Section 1A.05 contains  
27 information regarding the maintenance of traffic control devices. Section 1A.08 contains information  
28 regarding placement authority for traffic control devices. Section 1A.09 contains information regarding  
29 engineering studies. **relocated from Sections 7A.05 through 7A.09**

30 ~~Requirements~~ **Provisions** **edited to improve consistency** discussed in Chapter 2A and Section 2B.06 are  
31 applicable in school areas.

32 Part 3 contains provisions regarding pavement markings that are applicable in school areas.

33 Part 4 provisions regarding highway traffic signals that are applicable in school areas. The School  
34 Crossing signal warrant is described in Section 4C.06.

35 ~~**Section 7A.05 Application of Standards**~~

36 ~~Support:~~

37 ~~Sections 1A.02 and 1A.07 contain information regarding the application of standards.~~

38 ~~**Section 7A.06 Engineering Study Required**~~

39 ~~Support:~~

40 ~~Section 1A.09 contains information regarding engineering studies.~~

41 ~~**Section 7A.07 Maintenance of Traffic Control Devices**~~

42 ~~Support:~~

43 ~~Section 1A.05 contains information regarding the maintenance of traffic control devices.~~

44 ~~**Section 7A.08 Placement Authority**~~

45 ~~Support:~~

46 ~~Section 1A.08 contains information regarding placement authority for traffic control devices.~~

47 ~~**Section 7A.09 Unauthorized Devices and Messages**~~

1 ~~Support:~~

2 ~~Sections 1A.01 and 1A.08 contain information regarding unauthorized devices and messages.~~

3 ~~Section 7A.10 Meaning of Standard, Guidance, Option, and Support~~

4 ~~Support:~~

5 ~~The introduction to this Manual contains information regarding the meaning of the headings Standard,~~  
6 ~~Guidance, Option, and Support, and the use of the words shall, should, and may.~~ Sections 7A.05 through  
7 7A.10 relocated to Section 7A.04

8 Section 7A.05 Grade-Separated School Crossings this Section was added to take the place of

9 **Chapter 7F**

10 Support:

11 Grade-separated crossings (overpasses over the highway or underpasses under the highway) are  
12 sometimes used to physically separate the crossing of school pedestrian traffic and vehicular flow.  
13 Experience has shown that overpasses are more satisfactory than underpasses for school pedestrian crossings,  
14 as overpasses are easier to maintain and supervise.

15 If using the grade-separated crossing will be less convenient to school pedestrians than making an at-  
16 grade crossing, barriers or supervision are sometimes provided to assure a satisfactory level of use of the  
17 grade-separated crossing.

18 The published policies of the American Association of State Highway and Transportation Officials, such  
19 as “A Policy on Geometric Design of Highways and Streets” (see Section 1A.11), contain guidelines for the  
20 design of grade-separated crossings.



## CHAPTER 7B. SIGNS

### Section 7B.01 Size of School Signs

Standard:

[Except as noted in Section 2A.11](#), the sizes of signs and plaques to be used on conventional roadways in school areas shall be as shown in Table 7B-1.

The [sizes in the](#) conventional road ~~sign-size~~ [column](#) shall be used ~~on public roads, streets, and highways~~ unless engineering judgment determines that a minimum or oversized sign size would be more appropriate.

The [sizes in the](#) minimum ~~sign-size~~ [column, which is applicable only to the School \(S1-1\), SCHOOL BUS STOP AHEAD \(S3-1\), SCHOOL BUS TURN AHEAD \(S3-2\), and Reduced Speed School Zone Ahead \(S4-5, S4-5a\) signs, may shall only](#) be used on local residential streets, in urban areas, and where there are low traffic volumes and ~~low vehicle speeds~~ [the 85<sup>th</sup>-percentile speed or posted speed limit is less than 60 km/h \(35 mph\)](#), as determined by engineering judgment.

The [sizes in the](#) oversized ~~sign-size~~ [column](#) shall be used on expressways.

Option:

The [sizes in the](#) oversized ~~sign-size~~ [column](#) may be used for applications that require increased emphasis, improved recognition, or increased legibility.

[Signs and plaques larger than those shown in Table 7B-1 may be used \(see Section 2A.11\).](#)

### Section 7B.02 Illumination and Reflectorization

Standard:

The signs used for school area traffic control shall be retroreflectorized or illuminated.

### Section 7B.03 Position of Signs

Guidance:

Signs should be placed in positions where they will convey their messages most effectively without restricting lateral ~~clearance~~ [offset](#) or sight distances. Placement therefore should consider highway design, alignment, vehicle speed, ~~and~~ roadside development, [pedestrians, and other non-motorized road users](#).

Signs should have a ~~maximum-practical~~ [reasonable clearance lateral offset](#) from the edge of the traveled way for the safety of vehicles that might leave the roadway and strike the sign supports. Except as noted in the Option [below](#), signs should not be closer than 1.8 m (6 ft) from the edge of a paved shoulder, or if none, 3.7 m (12 ft) from the edge of the traveled way.

Option:

In urban areas, a lesser ~~clearance~~ [lateral offset](#) of not less than 0.6 m (2 ft) from the face of the curb may be used. In urban areas, where sidewalk width is limited or existing poles are close to the curb, a ~~clearance~~ [lateral offset](#) of 0.3 m (1 ft) from the curb face may be used.

[In-roadway signs for school traffic control areas may be used consistent with the requirements of Sections 2B.12, 7B.08, and 7B.11. ~~relocated from Section 7A.04~~](#)

### Section 7B.04 Height of Signs

Support:

Section 2A.18 contains information regarding the mounting height of signs.

### Section 7B.05 Installation of Signs

Support:

Section 2A.16 contains information regarding the installation of signs.

### Section 7B.06 Lettering

Support:

The ~~Federal Highway Administration's~~ [deleted to increase consistency](#) "Standard Highway Signs [and Markings](#)" book (see Section 1A.11) contains information regarding sign lettering.

1 **Section 7B.07 Sign Color for School Warning Signs**

2 **Standard:**

3 ~~Except as noted in the Option, School warning signs, including the “SCHOOL” portion of the~~  
4 ~~School Speed Limit (S5-1) sign, and any supplemental plaques used in association with these signs shall~~  
5 ~~have a fluorescent yellow-green background with a black legend and border unless otherwise stated in~~  
6 ~~this Manual for a specific sign.~~

7 ~~Option:~~

8 ~~All school warning signs in addition to the following signs may have a fluorescent yellow-green~~  
9 ~~background with a black legend and border:~~

- 10 ~~A. School Advance Warning sign (S1-1);~~
- 11 ~~B. SCHOOL BUS STOP AHEAD sign (S3-1);~~
- 12 ~~C. SCHOOL plaque (S4-3);~~
- 13 ~~D. The “SCHOOL” portion of the School Speed Limit sign (S5-1);~~
- 14 ~~E. XXX FEET plaque (W16-2 series);~~
- 15 ~~F. AHEAD plaque (W16-9p);~~
- 16 ~~G. Diagonal Arrow plaque (W16-7p), and~~
- 17 ~~H. Reduced Speed School Zone Ahead sign (S4-5, S4-5a);~~

18 ~~Guidance:~~

19 ~~When the fluorescent yellow-green background color is used, a systematic approach featuring one~~  
20 ~~background color within a zone or area should be used. The mixing of standard yellow and fluorescent~~  
21 ~~yellow-green backgrounds within a zone or area should be avoided.~~

22 **Section 7B.08 School Advance Warning Assembly Sign (S1-1 with Supplemental Plaque)**

23 ~~Guidance:~~

24 ~~The School Advance Warning assembly (see Figure 7B-1) should be installed in advance of locations~~  
25 ~~where school buildings or grounds are adjacent to the highway, except where a physical barrier such as~~  
26 ~~fencing separates schoolchildren from the highway.~~

27 ~~Standard:~~

28 ~~The School Advance Warning assembly shall be used in advance of any installation of the School~~  
29 ~~Crosswalk Warning assembly (see Figure 7B-2), or in advance of the first installation of the School~~  
30 ~~Speed Limit assembly (see Figure 7B-3).~~

31 ~~If used, the School Advance Warning assembly shall be installed not less than 45 m (150 ft) or more~~  
32 ~~than 210 m (700 ft) in advance of the school grounds or school crossings.~~

33 ~~If used, the School Advance Warning assembly shall consist of a School Advance Warning (S1-1)~~  
34 ~~sign supplemented with a plaque with the legend AHEAD (W16-9p) or XXX METERS (XXX FEET)~~  
35 ~~(W16-2 or W16-2a) to provide advance notice to road users of crossing activity.~~

36 Support:

37 Many state and local jurisdictions find it beneficial to advise road users that they are approaching a school  
38 that is adjacent to a highway, where additional care is needed, even though no school crossing is involved and  
39 the speed limit remains unchanged. Additionally, some jurisdictions designate school zones that have a  
40 unique legal standing in that fines for speeding or other traffic violations within designated school zones are  
41 increased or special enforcement techniques such as photo radar systems are used. It is important and  
42 sometimes legally necessary to mark the beginning and end points of these designated school zones so that the  
43 road user is given proper notice.

44 The School (S1-1) sign (see Figure 7B-1) has the following three applications:

- 45 A. School Area or Zone – if used alone, the S1-1 sign warns road users that they are approaching school  
46 buildings or grounds, a school crossing, or school related activity adjacent to the highway, and it  
47 marks the beginning of a designated school zone (see Figure 7B-2).
- 48 B. School Advance Crossing – if combined with an AHEAD (W16-9P) plaque or an XX METERS  
49 (FEET) (W16-2P or W16-2aP) plaque to comprise the School Advance Crossing assembly, the S1-1  
50 sign warns road users that they are approaching a crossing where schoolchildren cross the roadway  
51 (see Figure 7B-3).

1 C. School Crossing – if combined with a downward diagonal pointing arrow (W16-7P) plaque to  
2 comprise the School Crossing assembly, the S1-1 sign warns approaching road users of the location of  
3 a crossing where schoolchildren cross the roadway (see Figures 7B-3 and 7B-4).

#### 4 Section 7B.09 School Area or School Zone Sign

##### 5 Option:

6 The School (S1-1) sign may be installed in advance of locations where school buildings or grounds are  
7 adjacent to the highway to warn road users that they are approaching a school area.

##### 8 Standard:

9 If a school zone has been designated under State or local statute, a School (S1-1) sign shall be  
10 installed to mark the beginning point(s) of the designated school zone (see Figure 7B-2).

11 If a reduced speed zone for a school area has been established, a School (S1-1) sign shall be installed  
12 in advance (see Table 2C-4 for advance placement guidelines) of the first School Speed Limit sign  
13 assembly or S5-1 sign that is encountered in each direction as traffic approaches the reduced speed zone  
14 (see Figure 7B-4).

##### 15 Option:

16 A School (S1-1) sign that is installed to warn road users of a school area or a school zone (see Figure 7B-  
17 2) may be supplemented with a SCHOOL (S4-3P) plaque or an appropriate enforcement sign or plaque, such  
18 as a FINES HIGHER, FINES DOUBLE, or \$XX FINE plaque (see Section 2B.17).

19 If a school area or school zone is located on a cross street less than 38 m (125 ft) from edge of a street or  
20 highway, a School (S1-1) sign with a supplemental arrow (W16-5P or W16-6P) plaque may be installed on  
21 each approach of the street or highway to warn road users making a turn onto the cross street that they will  
22 encounter a school area or school zone soon after making the turn.

#### 23 Section 7B.10 School Advance Crossing Assembly

##### 24 Standard:

25 The School Advance Crossing assembly (see Figure 7B-1) shall consist of a School (S1-1) sign  
26 supplemented with an AHEAD (W16-9P) plaque or an XX METERS (FEET) (W16-2P or W16-2aP)  
27 plaque.

28 Except as noted in the Option below, a School Advance Crossing assembly shall be used in advance  
29 (see Table 2C-4 for advance placement guidelines) of the first School Crossing assembly (see Section  
30 7B.11) that is encountered in each direction as traffic approaches a school crosswalk (see Figure 7B-3).

##### 31 Option:

32 The School Advance Crossing assembly may be omitted (see Figure 7B-4) where a School (S1-1) sign  
33 (see Section 7B.09) is installed in advance of the School Crossing assembly.

34 If a school crosswalk is located on a cross street less than 38 m (125 ft) from edge of a street or highway,  
35 a School Advance Crossing assembly with a supplemental arrow (W16-5P or W16-6P) plaque may be  
36 installed on each approach of the street or highway to warn road users making a turn onto the cross street that  
37 they will encounter a school crosswalk soon after making the turn.

38 A 300 mm (12 in) reduced size in-street School ~~Advance Warning~~ (S1-1) sign (see Figure 7B-5), installed  
39 in compliance with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6  
40 or R1-6a) signs (see Section 2B.12), may be used in advance of a school crossing to supplement the ~~ground-~~  
41 post-mounted school warning signs. A 300 x 150 mm (12 x 6 in) reduced size AHEAD (W16-9P) plaque may  
42 be mounted below the reduced size in-street School ~~Advance Warning~~ (S1-1) sign. this paragraph was in  
43 Section 7B.08 of the 2003 MUTCD

#### 44 Section ~~7B.09~~ 7B.11 School ~~Crosswalk Warning~~ Crossing Assembly (~~S1-1 with Diagonal~~ 45 ~~Arrow~~)

##### 46 Standard:

47 If used, the School ~~Crosswalk Warning~~ Crossing assembly (see Figure 7B-1) shall be installed at the  
48 ~~marked crosswalk~~ school crossing (see Figures 7B-3 and 7B-4), or as close to it as possible, and shall  
49 consist of a School ~~Advance Warning~~ (S1-1) sign supplemented with a diagonal downward pointing  
50 arrow (W16-7P) plaque to show the location of the crossing.

1 The School ~~Crosswalk Warning~~ Crossing assembly shall not be used at ~~marked crosswalks~~  
2 crossings other than those adjacent to schools and those on established school pedestrian routes.

3 The School ~~Crosswalk Warning~~ Crossing assembly shall not be installed on approaches controlled  
4 by a STOP sign.

5 ~~Guidance:~~

6 ~~The School Crosswalk Warning assembly should be installed at marked crosswalk(s), including those at~~  
7 ~~signalized locations, used by students going to and from school (see Figure 7B-2) as determined by an~~  
8 ~~engineering study.~~

9 Option:

10 The In-Street Pedestrian Crossing (R1-6 or R1-6a) sign (see Section 2B.12 and Figure 7B-5) or the In-  
11 Street Schoolchildren Crossing (R1-6b or R1-6c) sign (see Figure 7B-5) may be used at unsignalized school  
12 crossings. ~~When~~ If used at a school crossing, a 300 x 100 mm (12 x 4 in) SCHOOL (S4-3P) plaque (see  
13 Figure 7B-5) may be mounted above the sign.

14 The Overhead Pedestrian Crossing (R1-9 or R1-9a) sign (see Section 2B.12 and Figure 2B-2) may be  
15 used at unsignalized school crossings.

16 A 300 mm (12 in) reduced size in-street added to increase accuracy School ~~Advance Warning~~ (S1-1) sign  
17 (see Figure 7B-5) may be used at an unsignalized school crossing instead of the In-Street Pedestrian Crossing  
18 (R1-6 or R1-6a) or the In-Street Schoolchildren Crossing (R1-6b or R1-6c) sign. A 300 x 150 mm (12 x 6 in)  
19 reduced size diagonal downward pointing edited to increase consistency arrow (W16-7P) plaque may be  
20 mounted below the reduced size in-street School ~~Advance Warning~~ (S1-1) sign.

21 Standard:

22 If an In-Street Pedestrian Crossing sign, an In-Street Schoolchildren Crossing sign, or a reduced  
23 size in-street School ~~Advance Warning~~ (S1-1) sign is placed in the roadway, the sign support shall  
24 comply with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6  
25 or R1-6a) signs (see Section 2B.12).

26 The In-Street Pedestrian Crossing sign, the In-Street Schoolchildren Crossing sign, the Overhead  
27 Pedestrian Crossing sign, and the reduced size in-street School ~~Advance Warning~~ (S1-1) sign shall not  
28 be used at signalized locations.

### 29 Section ~~7B.10~~ 7B.12 ~~SCHOOL BUS STOP AHEAD~~ School Bus Stop Ahead Sign (S3-1)

30 Guidance:

31 The ~~SCHOOL BUS STOP AHEAD~~ School Bus Stop Ahead (S3-1) sign (see Figure 7B-1) should be  
32 installed in advance of locations where a school bus, when stopped to pick up or discharge passengers, is not  
33 visible to road users for a distance ~~of 150 m (500 ft) in advance~~ as determined by the "0" column under  
34 Condition B of Table 2C-4, and where there is no opportunity to relocate the school bus stop to provide ~~150 m~~  
35 ~~(500 ft) of visibility~~ the distance specified in Table 2C-4.

### 36 Section 7B.13 SCHOOL BUS TURN AHEAD Sign (S3-2)

37 Option:

38 The SCHOOL BUS TURN AHEAD (S3-2) sign (see Figure 7B-1) may be installed in advance of  
39 locations where a school bus turns around on a roadway at a location not visible to approaching road users for  
40 a distance as determined by the "0" column under Condition B of Table 2C-4, and where there is no  
41 opportunity to relocate the school bus turn around to provide the distance specified in Table 2C-4.

### 42 Section ~~7B.11~~ 7B.14 School Speed Limit Assembly (S4-1P, S4-2P, S4-3P, S4-4P, S4-6P, S5-1)

43 Standard:

44 A School Speed Limit assembly (see Figure 7B-1) or a School Speed Limit (S5-1) sign (see Figure  
45 7B-1) shall be used to indicate the speed limit where a reduced speed zone for a school area has been  
46 established ~~(in accordance with law based upon an engineering study)~~ or where a speed limit is specified  
47 for such areas by statute. The School Speed Limit assembly or School Speed Limit sign shall be placed  
48 at or as near as practical to the point where the reduced speed zone begins (see Figure 7B-4).

49 Guidance:

1 The reduced speed zone should begin either at a point 60 m (200 ft) from the crosswalk, or at a point 30 m  
2 (100 ft) from the school property line, based on whichever is encountered first as traffic approaches the  
3 school.

4 **Standard:**

5 The School Speed Limit assembly shall be either a fixed-message sign assembly or a changeable  
6 message sign.

7 The fixed-message School Speed Limit assembly shall consist of a top plaque (S4-3P) with the  
8 legend SCHOOL, a Speed Limit (R2-1) sign, and a bottom plaque (S4-1P, S4-2P, S4-4P, or S4-6P)  
9 indicating the specific periods of the day and/or days of the week that the special school speed limit is in  
10 effect (see Figure 7B-1).

11 **Option:**

12 Changeable message signs (see ~~Sections 2A.07~~ Chapter 2M and Section 6F.57) may be used to inform  
13 drivers of the ~~special~~ school speed limit. If the sign is internally illuminated, it may have a white legend on a  
14 black background. Changeable message signs with flashing beacons may be used for ~~the more critical~~  
15 situations, where greater emphasis of the special school speed limit is needed.

16 **Guidance:**

17 Even though it might not always be practical because of special features to make changeable message  
18 signs conform in all respects to the ~~accepted~~ standards in this Manual for fixed-message signs, during the  
19 periods that the school speed limit is in effect, their basic shape, message, legend layout, and colors should  
20 ~~conform to~~ comply with the standards for fixed-message signs.

21 A confirmation ~~beacon~~ light or device to indicate that the speed limit message is in operation should be  
22 considered for inclusion on the back of the changeable message sign.

23 **~~Option~~ Standard:**

24 Fluorescent yellow-green pixels ~~may~~ shall be used when the school-related “SCHOOL” messages  
25 ~~are is shown~~ displayed ~~edited to increase consistency~~ on a changeable message sign for a school speed  
26 limit.

27 **Option:**

28 Changeable message signs may use blank-out messages or other methods in order to display the school  
29 speed limit only during the periods it applies.

30 Changeable message signs that display the speed of approaching drivers (see Section 2B.13) may be used  
31 in a school speed limit zone.

32 A Speed Limit Sign Beacon (see Section 4L.04) also may be used, with a WHEN FLASHING legend, to  
33 identify the periods that the school speed limit is in effect. The ~~signal lenses~~ indications of the Speed Limit  
34 Sign Beacon may be positioned within the face of the School Speed Limit (S5-1) sign (see Figure 7B-1).

35 A FINES HIGHER (~~R2-6~~), FINES DOUBLE, or \$XX FINE sign plaque (see Section 2B.17) may be used  
36 to advise road users when increased fines are imposed for traffic violations in school zones.

37 **Section ~~7B.12~~ 7B.15 Reduced Speed School Zone Speed Limit Ahead Sign (S4-5, S4-5a)**

38 **Option:**

39 The Reduced ~~Speed~~ School ~~Zone~~ Speed Limit Ahead (S4-5, S4-5a) sign (see Figure 7B-1) may be used to  
40 inform road users of a reduced speed zone when engineering judgment indicates that advance notice would be  
41 appropriate.

42 **Standard:**

43 If used, the Reduced ~~Speed~~ School ~~Zone~~ Speed Limit Ahead sign shall be followed by a School  
44 Speed Limit sign or a School Speed Limit assembly.

45 The speed limit displayed on the Reduced ~~Speed~~ School ~~Zone~~ Speed Limit Ahead sign shall be  
46 identical to the speed limit displayed on the subsequent School Speed Limit sign or School Speed Limit  
47 assembly.

48 **Section ~~7B.13~~ 7B.16 END SCHOOL ZONE Sign (S5-2)**

49 **Standard:**

50 The downstream end of a designated school area or school zone (see Section 7B.09) shall be marked  
51 with an END SCHOOL ZONE (S5-2) sign (see Figures 7B-1 and 7B-2).

1       The downstream end of an authorized and posted school speed zone shall be marked with a  
2 ~~standard Speed Limit sign showing the speed limit for the section of highway that follows or with an~~  
3 **END SCHOOL ZONE (S5-2) sign** (see Figures 7B-1 and 7B-4). A standard Speed Limit sign showing  
4 the speed limit for the section of highway that is downstream from the authorized and posted school  
5 speed zone shall be mounted on the same post as the END SCHOOL ZONE (S5-2) sign.

6 **Section ~~7B.14~~ 7B.17 Parking and Stopping Signs (R7 and R8 Series)**

7 Option:

8       Parking and stopping regulatory signs may be used to prevent parked or waiting vehicles from blocking  
9 pedestrians' views, and drivers' views of pedestrians, and to control vehicles as a part of the school traffic  
10 plan.

11 Support:

12       Parking signs and other signs governing the stopping and standing of vehicles in school areas cover a  
13 wide variety of regulations. Typical examples of regulations are as follows:

- 14       A. No Parking X:XX AM to X:XX PM School Days Only,
- 15       B. No Stopping X:XX AM to X:XX PM School Days Only,
- 16       C. XX Min Loading X:XX AM to X:XX PM School Days Only, and
- 17       D. No Standing X:XX AM to X:XX PM School Days Only.

18       Sections 2B.53, 2B.54, and 2B.55 contain information regarding the signing of parking regulations in  
19 school zone areas.

## CHAPTER 7C. MARKINGS

### 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.

### 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.

### 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 sign](#).

[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.](#)

1 Option:

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

5 Guidance:

6 If used, the diagonal or longitudinal lines should be 300 to 600 mm (12 to 24 in) wide and spaced 300 to  
7 1500 mm (12 to 60 in) apart. The spacing design should avoid the wheel paths, and the spacing should not  
8 exceed 2.5 times the line width.

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

12 Guidance:

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

16 Option:

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

20 Yield lines may be used to indicate the point behind which vehicles are required to yield in compliance  
21 with a YIELD (R1-2) sign (see Figure 2B-1) or a Yield Here To Pedestrians (R1-5 or R1-5a) sign (see Figure  
22 2B-2).

23 **Standard:**

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

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

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

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

35 Guidance:

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

37 The individual triangles comprising the yield line should have a base of 300 to 600 mm (12 to 24 in) wide  
38 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).

39 If used, stop and yield lines should be placed a minimum of 1.2 m (4 ft) in advance of and parallel to the  
40 nearest crosswalk line at controlled intersections, except for yield lines at roundabouts ~~intersections~~ as  
41 provided for in Section 3C.04 and at midblock crosswalks. In the absence of a marked crosswalk, the stop  
42 line or yield line should be placed at the desired stopping or yielding point, but should not be placed ~~no~~ edited  
43 to improve grammar more than 9 m (30 ft) or less than 1.2 m (4 ft) from the nearest edge of the intersecting  
44 traveled way. ~~Stop lines should be placed to allow sufficient sight distance to all other approaches to an~~  
45 ~~intersection.~~

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

48 Support:

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



1 Guidance:

2 If yield lines are used at ~~an unsignalized midblock~~ a crosswalk that crosses an uncontrolled multi-lane  
3 approach, the yield lines should be placed ~~adjacent to the Yield Here to Pedestrians sign located~~ 6.1 to 15 m  
4 (20 to 50 ft) in advance of the nearest crosswalk line, and parking should be prohibited in the area between the  
5 yield line and the crosswalk (see Figure 3B-16).

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

8 Standard:

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

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

12 **Standard:**

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

17 **Guidance:**

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

21 **Option:**

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

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

26 **Support:**

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

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

31 **Support:**

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

37 **Standard:**

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

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

43 **Guidance:**

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

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

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

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

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

3       Except ~~as noted in the Option below~~ [for the SCHOOL word marking](#), pavement word and symbol  
4 markings should be no more than one lane in width.

5 Option:

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

7 Guidance:

8       If the two-lane SCHOOL word marking is used, the letters should be 3 m (10 ft) or more in height.  
9

1            ~~CHAPTER 7D. SIGNALS~~ cross references to Part 4 were added in Section 7A.04

2            ~~Section 7D.01 General~~

3            ~~Support:~~

4            ~~Part 4 contains information regarding highway traffic signals in school areas. The School Crossing signal~~  
5            ~~warrant is described in Section 4C.06.~~

6

1 CHAPTER ~~7E.~~ 7D. CROSSING SUPERVISION

2 Section ~~7E.01~~ 7D.01 Types of Crossing Supervision

3 Support:

4 There are ~~two~~ three types of school crossing supervision:

- 5 A. Adult control of pedestrians and vehicles by adult crossing guards ~~or uniformed law enforcement~~
- 6 ~~officers, and~~
- 7 B. Adult control of pedestrians and vehicles by uniformed law enforcement officers, and
- 8 C. Student control of only pedestrians with student patrols.

9 ~~Information for the organization, operation, and administration of an adult crossing guard program are~~  
10 ~~given in “Civilian Guards for School Crossings” (available from the Center for Public Safety of Northwestern~~  
11 ~~University, 405 Church Street, Evanston, IL 60204) and “Adult School Crossing Guards” (available from the~~  
12 ~~American Automobile Association, 1000 AAA Drive, Heathrow, FL 32746). deleted because neither of these~~  
13 ~~publications are still available~~

14 Information ~~for~~ regarding the organization, administration, and operation of a student school safety patrol  
15 program ~~are given~~ is contained in the “Policies and Practices for AAA School Safety Patrols Operations  
16 Manual” (available from the American Automobile Association, 1000 AAA Drive, Heathrow, FL 32746 see  
17 Section 1A.11).

18 Section ~~7E.02~~ 7D.02 Adult Crossing Guards

19 Option:

20 Adult crossing guards may be used to provide gaps in traffic at school crossings where an engineering  
21 study has shown that adequate gaps need to be created (see Section 7A.03), and where authorized by law.

22 Section ~~7E.03~~ 7D.03 Qualifications of Adult Crossing Guards

23 Support:

24 High standards for selection of adult crossing guards are essential because they are responsible for  
25 schoolchildren within and in the immediate vicinity of school crosswalks.

26 Guidance:

27 Adult crossing guards should possess the following minimum qualifications:

- 28 A. Average intelligence;
- 29 B. Good physical condition, including sight, hearing, and ~~mobility~~ ability to move and maneuver quickly
- 30 in order to avoid danger from errant vehicles;
- 31 C. Ability to control a STOP paddle effectively to provide approaching road users with a clear, fully
- 32 direct view of the paddle’s STOP message during the entire crossing movement;
- 33 D. Ability to communicate specific instructions clearly, firmly, and courteously;
- 34 E. Ability to recognize potentially dangerous traffic situations and warn and manage students in
- 35 sufficient time to avoid injury.
- 36 F. Mental alertness;
- 37 G. Neat appearance;
- 38 H. Good character;
- 39 I. Dependability; and
- 40 J. An overall sense of responsibility for the safety of students.

41 Section ~~7E.04~~ 7D.04 Uniform of Adult Crossing Guards ~~and Student Patrols~~

42 ~~Guidance:~~

43 ~~Adult crossing guards should be uniformed so that road users and pedestrians can recognize them and~~  
44 ~~respond to their signals. The uniforms should be distinctively different from those worn by regular law~~  
45 ~~enforcement officers.~~

46 Standard:

47 Law enforcement officers performing school crossing supervision and adult crossing guards shall  
48 wear high-visibility retroreflective safety apparel labeled as ANSI ~~107-1999~~ 107-2004 standard  
49 performance for Class 2 as described in Section 6E.02.

1 ~~Student patrols shall wear high-visibility retroreflective safety apparel labeled as ANSI 107-1999~~  
2 ~~standard performance for Class 1 as described in Section 6E.02.~~

3 ~~Guidance:~~

4 ~~Law enforcement officers should wear high-visibility retroreflective material over their uniforms when~~  
5 ~~directing nighttime operations.~~

## 6 ~~Section 7E.05~~ **7D.05 Operating Procedures for Adult Crossing Guards**

7 ~~Guidance~~ **Standard:**

8 Adult crossing guards ~~should~~ **shall** not direct traffic in the usual law enforcement regulatory sense.  
9 In the control of traffic, they ~~should~~ **shall** pick opportune times to create a ~~reasonably safe~~ **sufficient**  
10 **gap in the traffic flow**. At these times, they ~~should~~ **shall** stand in the roadway to indicate that  
11 pedestrians are about to use or are using the crosswalk, and that all vehicular traffic must stop.

12 Adult crossing guards ~~should~~ **shall** use a STOP paddle. The STOP paddle ~~should~~ **shall** be the  
13 primary hand-signaling device.

14 ~~Standard:~~

15 The STOP **(R1-1)** paddle shall be an octagonal shape. The background of the STOP face shall be  
16 red with at least 150 mm (6 in) series ~~capital~~ **upper-case** white letters and border. The paddle shall be  
17 at least 450 mm (18 in) in size and have the word message STOP on both sides. The paddle shall be  
18 retroreflectorized or illuminated when used during hours of darkness.

19 Option:

20 The STOP paddle may be modified to improve conspicuity by incorporating ~~red or~~ white **or red** flashing  
21 lights on both sides of the paddle. The red or white flashing lights may be arranged in any of the following  
22 patterns:

- 23 A. Two ~~red or~~ white **or red** lights centered vertically above and below the STOP legend,  
24 B. Two ~~red or~~ white **or red** lights centered horizontally on each side of the STOP legend,  
25 C. One ~~red or~~ white **or red** light centered below the STOP legend,  
26 D. A series of eight or more small ~~red or~~ white **or red** lights no larger than 6 mm (0.25 in) in diameter  
27 along the outer edge of the paddle, arranged in an octagonal pattern at the eight corners of the STOP  
28 paddle (more than eight lights may be used only if the arrangement of the lights is such that it clearly  
29 conveys the octagonal shape of the STOP paddle), or  
30 E. A series of white lights forming the shapes of the letters in the legend.

31 **Standard:**

32 If flashing lights are used on the STOP paddle, the flash rate shall be at least 50, but not more than  
33 60, flash periods per minute.

## 34 ~~Section 7E.06~~ **Uniformed Law Enforcement Officers**

35 ~~Option:~~

36 ~~Uniformed law enforcement officers may be used for school crossing supervision.~~

## 37 ~~Section 7E.07~~ **Student Patrols**

38 ~~Option:~~

39 ~~Student patrols may be used to direct and control pedestrians at crossings near schools where adequate~~  
40 ~~gaps in traffic occur frequently enough so that gaps do not need to be created.~~

41 ~~Student patrols may be used to direct and control pedestrians at signalized intersections where turning~~  
42 ~~movements are not a significant problem, and may be used to assist adult crossing guards in the control of~~  
43 ~~pedestrians at crossing locations used by large numbers of pedestrians.~~

44 ~~Guidance:~~

45 ~~Student patrols should not be responsible for directing vehicular traffic. They should not function as~~  
46 ~~uniformed law enforcement officers or adult crossing guards.~~

## 47 ~~Section 7E.08~~ **Choice of Student Patrols**

48 ~~Guidance:~~

1 ~~Student patrols should be carefully selected. They should be students from the fifth grade or higher.~~  
2 ~~Leadership and reliability should be determining qualities for patrol membership.~~

3 ~~Parental approval should be obtained in writing before a student is used as a member of a student patrol.~~

4 **Section 7E.09 Operating Procedures for Student Patrols**

5 **Guidance:**

6 ~~Student patrols should use a flagging device to stop pedestrians behind the curb or edge of the roadway,~~  
7 ~~and should allow them to cross only when there is an adequate gap in traffic.~~

8 **~~Standard:~~**

9 ~~Flagging devices used during periods of twilight or darkness shall be retroreflective or illuminated.~~

10 ~~Because they are not authorized to direct vehicular traffic, student patrols shall not use a STOP~~  
11 ~~paddle.~~

1 ~~CHAPTER 7F. GRADE SEPARATED CROSSINGS~~ replaced by new Section 7A.05

2 ~~Section 7F.01 Function~~

3 ~~Option:~~

4 ~~Grade-separated crossings may be used to physically separate the crossing of school pedestrian traffic and~~  
5 ~~vehicular flow.~~

6 ~~Section 7F.02 Types of Grade Separated Crossings~~

7 ~~Option:~~

8 ~~Grade-separated crossings may be either overpasses over the highway or underpasses under the highway.~~

9 ~~Guidance:~~

10 ~~The design should follow the guidelines given in the published policies of the American Association of~~  
11 ~~State Highway and Transportation Officials, such as "A Policy on Geometric Design of Highways and~~  
12 ~~Streets" (see Section 1A.11).~~

13 ~~Support:~~

14 ~~Experience has shown that overpasses are more satisfactory than underpasses for pedestrian crossings, as~~  
15 ~~overpasses are easier to maintain and supervise.~~

16 ~~Section 7F.03 Criteria for Use of Grade Separated Crossings~~

17 ~~Guidance:~~

18 ~~If use of the grade separation will be less convenient to pedestrians than an at-grade crossing, barriers or~~  
19 ~~supervision should be considered to assure a satisfactory level of use.~~

20

**Table 7B-1. School Area Sign and Plaque Sizes**

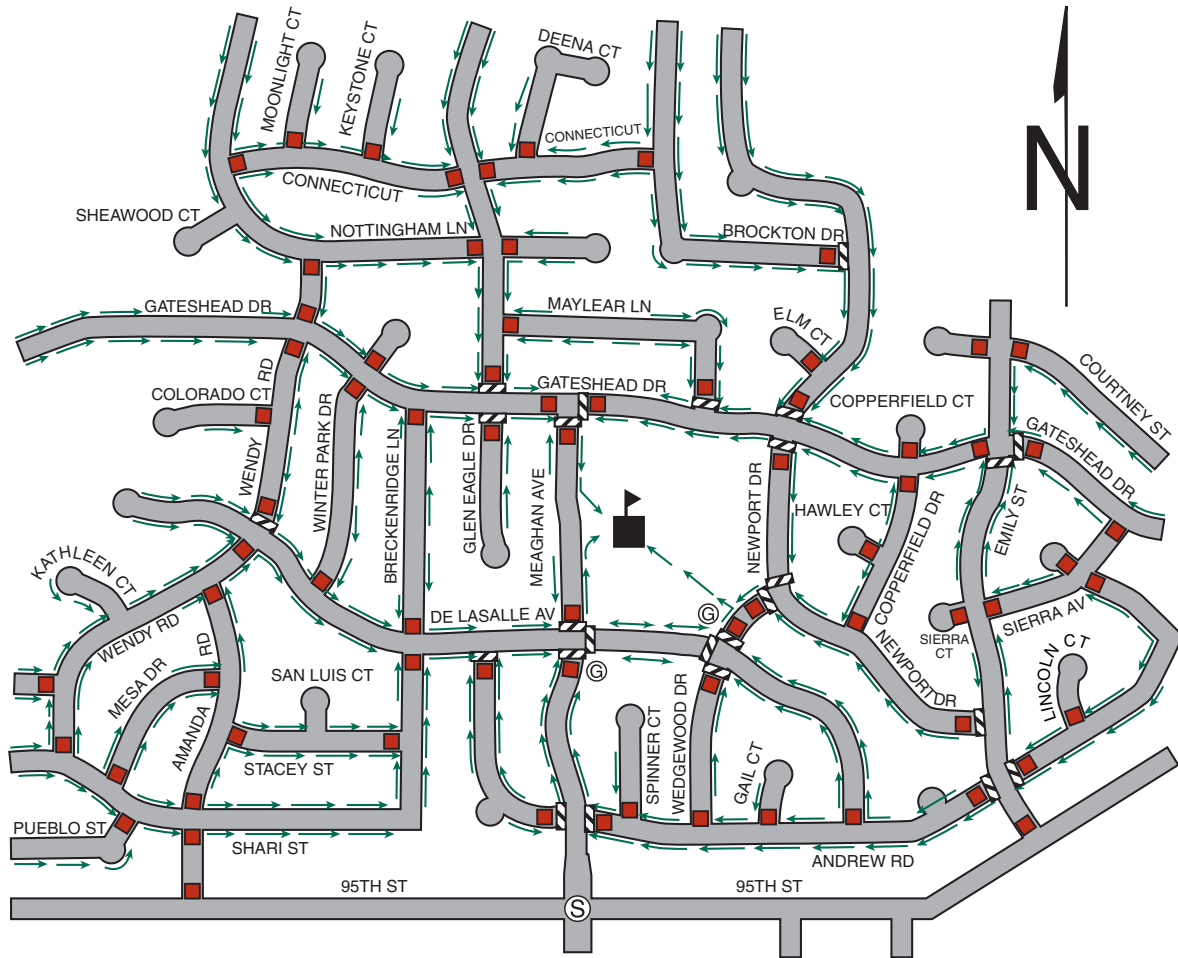
Sign	Sign Designation	Section	Conventional Road	Minimum	Oversized
School	S1-1	7B.08	900 x 900 (36 x 36)	750 x 750 (30 x 30)	1200 x 1200 (48 x 48)
School Bus Stop Ahead	S3-1	7B.12	900 x 900 (36 x 36)	750 x 750 (30 x 30)	1200 x 1200 (48 x 48)
School Bus Turn Ahead	S3-2	7B.13	900 x 900 (36 x 36)	750 x 750 (30 x 30)	1200 x 1200 (48 x 48)
Reduced School Speed Limit Ahead	S4-5, S4-5a	7B.15	900 x 900 (36 x 36)	750 x 750 (30 x 30)	1200 x 1200 (48 x 48)
School Speed Limit XX When Flashing (English)	S5-1	7B.14	600 x 1200 (24 x 48)	—	900 x 1800 (36 x 72)
School Speed Limit XX When Flashing (Metric)	S5-1(M)	7B.14	600 x 1350 (24 x 54)	—	900 x 2100 (36 x 84)
End School Zone	S5-2	7B.16	600 x 750 (24 x 30)	—	900 x 1200 (36 x 48)
In-Street Ped Crossing	R1-6, R1-6a R1-6b, R1-6c	7B.11	300 x 900 (12 x 36)	—	—
Speed Limit (School Use) (English)	R2-1	7B.14	600 x 750 (24 x 30)	—	900 x 1200 (36 x 48)
Speed Limit (School Use) (Metric)	R2-1(M)	7B.14	600 x 900 (24 x 36)	—	900 x 1350 (36 x 54)

Plaque	Sign Designation	Section	Conventional Road	Minimum	Oversized
X:XX to X:XX AM X:XX to X:XX PM	S4-1P	7B.14	600 x 250 (24 x 10)	—	900 x 450 (36 x 18)
When Children Are Present	S4-2P	7B.14	600 x 250 (24 x 10)	—	900 x 450 (36 x 18)
School	S4-3P	7B.14	600 x 200 (24 x 8)	—	900 x 300 (36 x 12)
When Flashing	S4-4P	7B.14	600 x 250 (24 x 10)	—	900 x 450 (36 x 18)
Mon-Fri	S4-6P	7B.14	600 x 250 (24 x 10)	—	900 x 450 (36 x 18)
XX Meters or Feet	W16-2P	7B.10	600 x 450 (24 x 18)	—	750 x 600 (30 x 24)
XX m or Ft	W16-2aP	7B.10	600 x 300 (24 x 12)	—	750 x 450 (30 x 18)
Diagonal Arrow	W16-7P	7B.11	600 x 300 (24 x 12)	—	750 x 450 (30 x 18)
Diagonal Arrow (Optional Size)	W16-7P	7B.11	525 x 375 (21 x 15)	—	—
Ahead	W16-9P	7B.10	600 x 300 (24 x 12)	—	750 x 450 (30 x 18)





- Note: 1. Larger sizes may be used when appropriate.  
 2. Dimensions are shown in millimeters followed by inches in parentheses and are shown as width x height.



**Figure 7A-1. Example of School Route Plan Map**



**Legend**

- |   |                  |   |                         |
|---|------------------|---|-------------------------|
|  | School           |  | Signalized Intersection |
|  | Marked Crosswalk |  | STOP Sign Approach      |
|  | Crossing Guard   |  | Pedestrian Route        |

**Figure 7B-1. School Area Signs**

School Advance  
Crossing Assembly



S1-1



W16-9P

OR



W16-2aP

OR



W16-2P

School Crossing  
Assembly



S1-1



W16-7P

School Area or  
School Zone Sign



S1-1



S4-3P (optional)

School Speed  
Limit Assembly

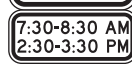


S4-3P



R2-1

OR



S4-1P

OR



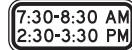
S4-2P

OR



S4-4P

OR



S4-1P



S4-6P



S4-3P



R2-1(M)



S4-1P



S3-1



S3-2



S4-5



S4-5a

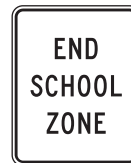


S5-1

OR

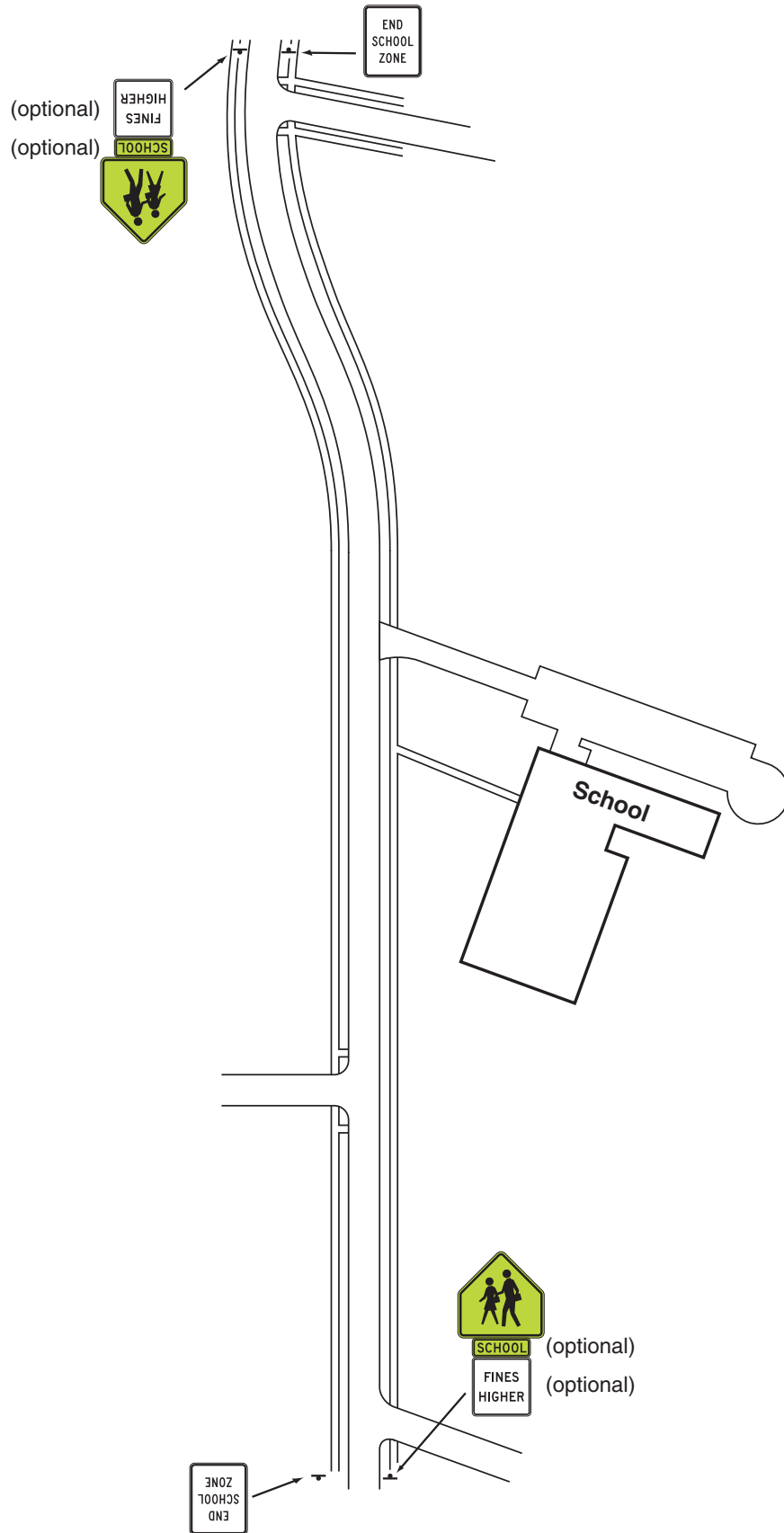


S5-1(M)

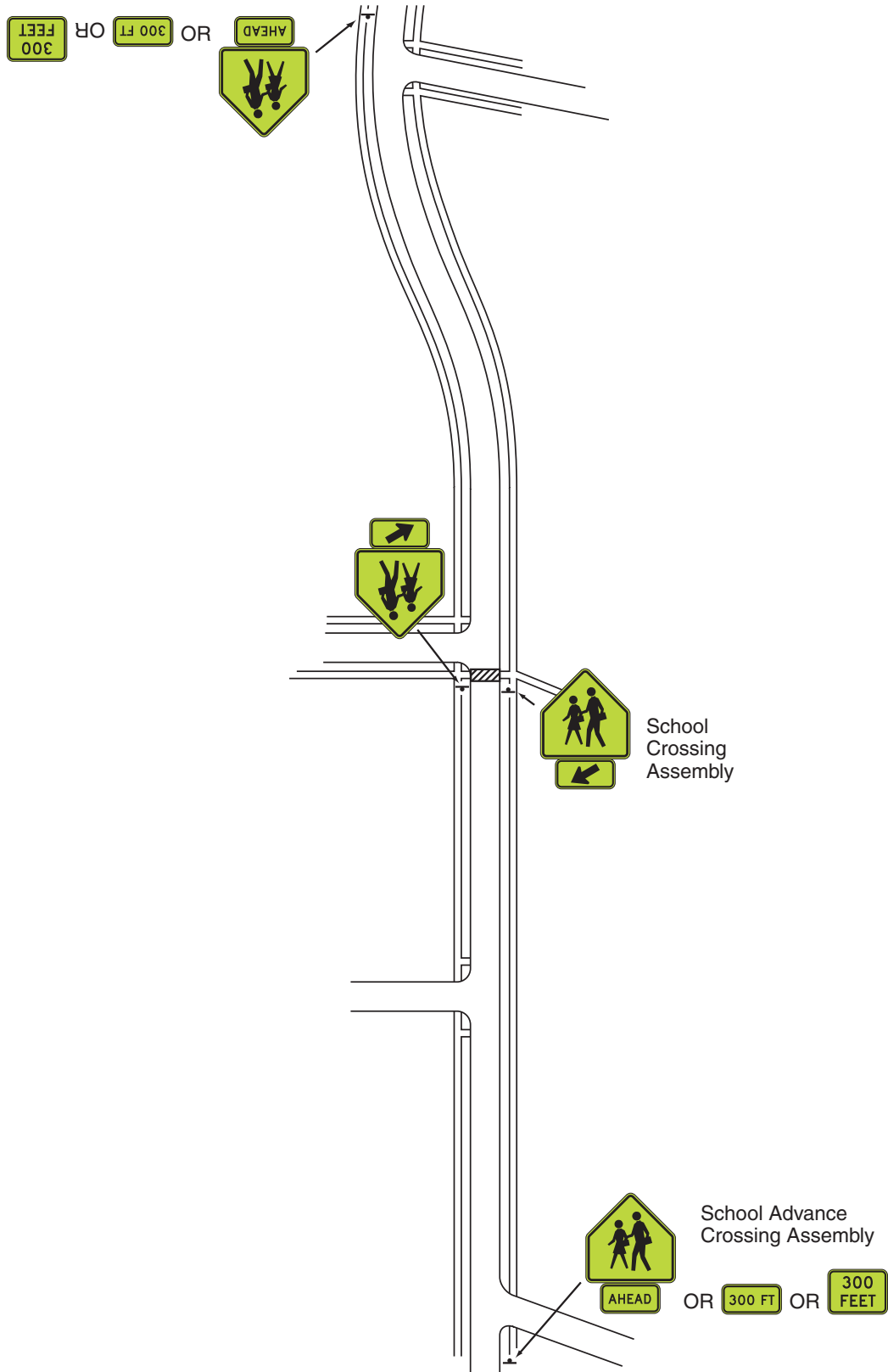


S5-2

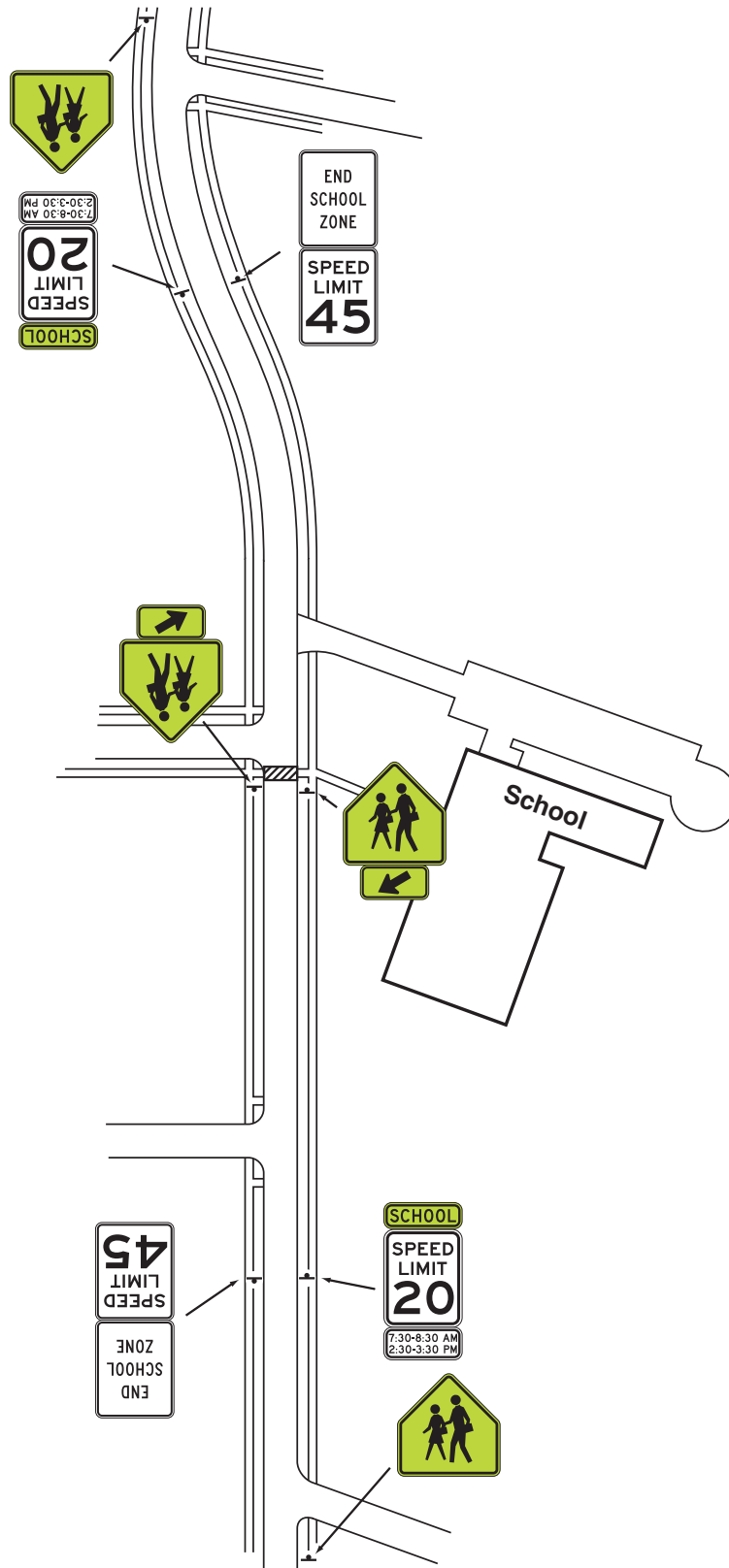
**Figure 7B-2. Example of Signing for a School Zone**



**Figure 7B-3. Example of Signing for a School Crossing**

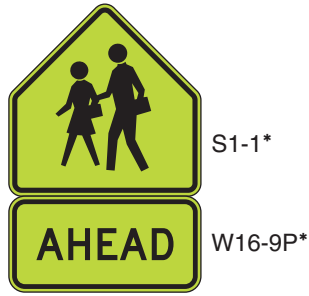


**Figure 7B-4. Example of Signing for School Area Traffic Control with School Speed Limits**



**Figure 7B-5. In-Street Signs in School Areas**

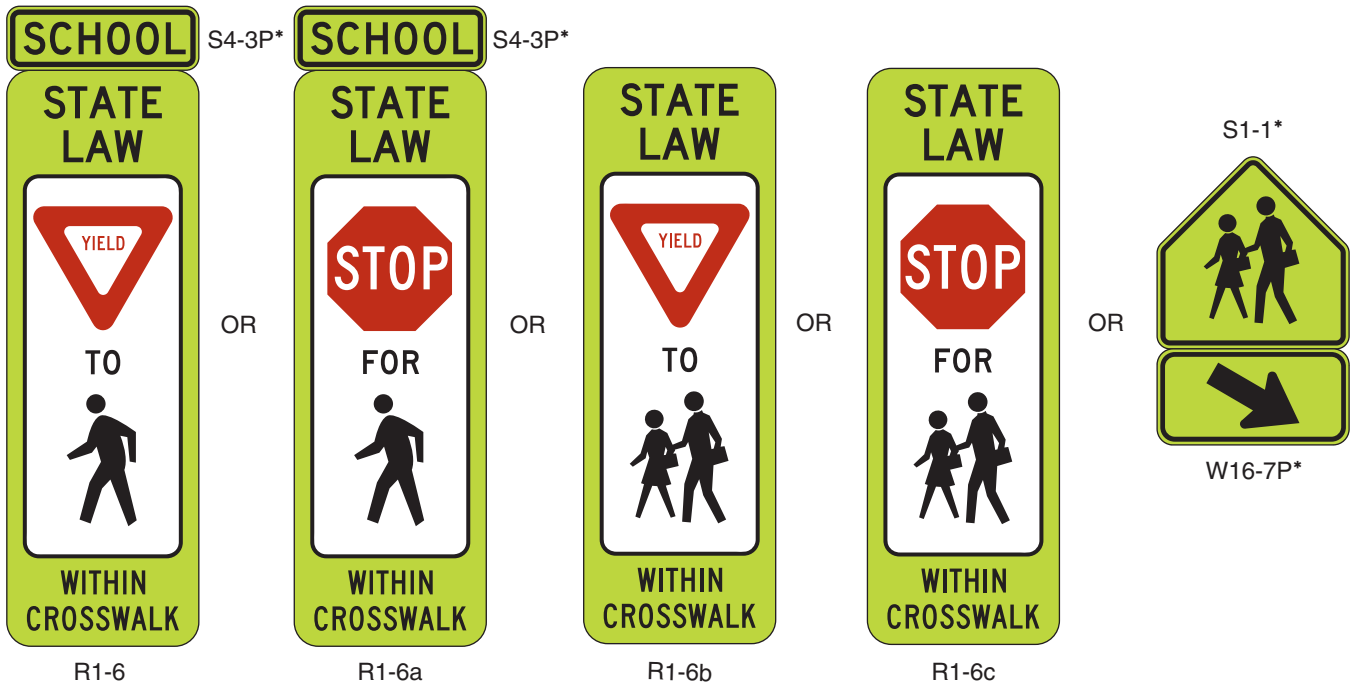
**A - In advance of the school crossing**



\* Reduced size signs:

S1-1	300 x 300 mm (12 x 12 in)
S4-3P	300 x 100 mm (12 x 4 in)
W16-7P	300 x 150 mm (12 x 6 in)
W16-9P	300 x 150 mm (12 x 6 in)

**B - At the school crossing**



Note: The use of the SCHOOL plaque above the R1-6 and R1-6a signs is optional.

**Figure 7C-1. Two-Lane Pavement Marking of “SCHOOL”**

