

# PART 7

## TRAFFIC CONTROL FOR SCHOOL AREAS

### CHAPTER 7A. GENERAL

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

##### Support:

- 01A Planning of student transportation to and from school is primarily a responsibility of the local school district.
- 01 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:

- 02 *School walk routes should be planned to take advantage of existing traffic controls.*
- 03 *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 other pedestrian walkways 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.*
- 03A *Before designated school zones are established, a team consisting of representatives of the local school district, local government, law enforcement agency and the highway authority should convene to discuss student transportation issues, walking routes, reduced school speed limits, and designated road crossings for students. When a school route plan has been approved by the local school district and accepted by the highway authority, the regional traffic and safety engineer or city traffic engineer should select the appropriate traffic control devices in accordance with Sections 7A.100 and 7A.101.*

#### Section 7A.04 Scope

##### Standard:

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

##### Support:

- 02 Sections 1A.01 and 1A.08 contain information regarding unauthorized devices and messages. Sections 1A.02 and 1A.07 contain information regarding the application of standards. Section 1A.05 contains information regarding the maintenance of traffic control devices. Section 1A.08 contains information regarding placement authority for traffic control devices. Section 1A.09 contains information regarding engineering studies and the assistance that is available to jurisdictions that do not have engineers on their staffs who are trained and/or experienced in traffic control devices.
- 03 Provisions contained in Chapter 2A and Section 2B.06 are applicable in school areas.
- 04 Part 3 contains provisions regarding pavement markings that are applicable in school areas.
- 05 Part 4 contains provisions regarding highway traffic signals that are applicable in school areas. The School Crossing signal warrant is described in Section 4C.06.
- 05A The urban and rural traffic control matrices presented in Table 7A-100 and Table 7A-101 apply only to roads abutting school property and nonabutting roads at designated school crossings.

## Section 7A.100 Rural School Area Traffic Control Summary

[This is a new section. There is no corresponding section in the MUTCD.]

*Guidance:*

- 01 *Traffic control treatment of rural school areas should conform to Table 7A-100.*
- 02 *School districts should consider providing crossing guards where students in grades K-8 (K-4 in particular) are required to cross major streets.*
- 03 *On state roads, any significant deviation from the traffic control treatments shown in Table 7A-100 should be supported by written justification in accordance with procedures for Design Criteria Waiver, as outlined in Chapter 11 of the Alaska Highway Preconstruction Manual.*

*Support:*

- 04 For this application, “rural” is defined as a sparsely populated area where the majority of land is not subdivided.
- 05 Rural schools have different traffic control than urban schools because there are generally fewer students that must walk to school. Students are usually bused or driven because these areas are more sparsely settled and homes are farther away. Placing 20 mph zones on rural high speed roads where few student pedestrians are seen by drivers would generate disrespect for school speed zones in general, thereby making all school zones less safe.

## Section 7A.101 Urban School Area Traffic Control Summary

[This is a new section. There is no corresponding section in the MUTCD.]

*Guidance:*

- 01 *Traffic control treatment of urban school areas should conform to Table 7A-101.*
- 02 *On state roads, any significant deviation from the traffic control treatments shown in Table 7A-101 should be supported by written justification in accordance with procedures for Design Criteria Waiver, as outlined in Chapter 11 of the Alaska Highway Preconstruction Manual.*

**Table 7A-100. Rural School Area Traffic Control**

Road Adjacent to School Grounds		Road Not Adjacent to School Grounds
Speed Limit <35 mph	Speed Limit >40 mph	School Area traffic control devices should not be placed on roads that do not abut school grounds unless a crossing guard is present at the site. Any exceptions to this rule shall be based on a site-specific engineering study.
School Area Signs (S1-1)	School Area Signs (S1-1) with a pedestrian-actuated beacon	

**Table 7A-101. Urban School Area Traffic Control** (Sheet 1 of 2)

Urban School Area Traffic Control Guidelines (Applies Only to Roads Abutting School Property and Non-Abutting Roads at Designated School Crossings)												
Grade Level (Lowest Grade Taught at School)	Students Required to Cross Road at Grade										Students Not Required to Cross Road at Grade (Could be grade-separated or just no crossing)	
	Traffic Signal At Crossing		No Traffic Signal at Crossing									
			STOP Controlled Crossing	Crossing Not STOP-Controlled								
	Sufficient Gaps (2)			Insufficient Gaps (2) Address by re-routing students, busing students, or one of the following:								
				Crossing Guard (5) (6)		Grade Separation	Ped Signal or Ped Hybrid Beacon (if warranted) (3)	Mid-Street Refuge Island (7)	Completely Fenced? (1)			
	Existing Speed Limit ≤20	Existing Speed Limit >20		Ex. Spd Limit ≤20	Ex. Spd Limit >20				Yes	No		
9-12	C <input type="checkbox"/>	C	C (major streets only) <input type="checkbox"/>	C	C	N/A	N/A	See Students Not Required to Cross Road At-Grade	See Students Required to Cross Road At-Grade/ Traffic Signal at Crossing	If refuge provides sufficient gaps, See Cross At-Grade/No Signal/No STOP/ Sufficient Gaps. If not, choose another solution	<input type="checkbox"/>	
5-8	C	CG?	C (major streets only) G? <input type="checkbox"/>	C	CG?	CG	CG				<input type="checkbox"/>	
K-4	CG?	CG?	C (major streets only) G? <input type="checkbox"/>	CG?	CG?	CG	CG				<input type="checkbox"/>	

LEGEND	
n/a	Does not apply - Crossing Guards should not be used for high school students.
<input type="checkbox"/>	No School Signs
	School Area Sign (S1-1 and W16-9p) only
	School Advance Crossing (S1-1 and W16-9p) and School Crossing (S1-1 and W16-9p). Overhead S1-1 sign optional. (4)
	School Advance Crossing and School Crossing Signs +20 MPH When Flashing (S5-1) with flasher, or 20 MPH School Speed Limit Assemblies (with S4-1P, S4-2P, S4-4P, or S4-6P plates). Overhead S1-1 sign optional. (4)
C	Marked Crosswalk - install at nearest intersection, if within 400 ft. If there is already a crosswalk within 400 feet, use it as a school crosswalk. Use school crosswalk signs at mid-block locations if within a school zone.
G	Crossing Guard
G?	School districts should consider crossing guards at major street crossings.

See next page for notes.

## Table 7A-101. Urban School Area Traffic Control (Sheet 2 of 2)

- (1) "Completely fenced" means fencing that restricts all access from the street side of the school to the street.
- (2) See Section 7A.03 of the MUTCD for gap sufficiency determination: When gaps are insufficient for crossing, student re-routing, busing, or mid-street pedestrian refuge islands should be the first options considered. Guards or pedestrian signals should be viewed as last resorts.
- (3) Traffic signals may be installed (but are not mandated) for pedestrians when the Minimum Pedestrian Volume or School Crossing warrants defined in Sections 4C.05 and 4C.06 of the MUTCD are met. Although these signals may be installed mid-block, every effort should be made to install them at intersections and run them as conventional signals. Where the warrants for installing a pedestrian traffic signal are not met, pedestrian hybrid beacons should be considered according to the guidelines defined in Section 4F.01 of the MUTCD.
- (4) The "Overhead S1-1 sign" referenced in the legend is a S1-1 school crossing sign hung over the road at or near the crosswalk. Sign illumination (see Section 2A.07) or flashing beacons (see Chapter 4L) associated with the overhead sign should be considered to enhance driver awareness of the crossing. If the site has advance school flashers, the overhead flashers should flash when the advance school flashers flash.
- (5) Crossing guards are only a solution on streets with inadequate gaps when policy allows guards to create, rather than just extend, gaps in traffic.
- (6) Crossing guards should not be used when streets have more than three lanes.
- (7) Mid-street pedestrian refuges increase the number of gaps of sufficient duration for crossing by splitting the crossing into two parts, which:
  - (a) Reduces gap duration necessary for crossing by reducing crossing distance, and
  - (b) Increases gap frequency by reducing the conflicting traffic volume.Pedestrian refuges should be at least 6 feet wide.

## CHAPTER 7B. SIGNS

### Section 7B.08 School Sign (S1-1) and Plaques

Support:

- 01 Many state and local jurisdictions find it beneficial to advise road users that they are approaching a school that is adjacent to a highway, where additional care is needed, even though no school crossing is involved and the speed limit remains unchanged. Additionally, some jurisdictions designate school zones that have a unique legal standing in that fines for speeding or other traffic violations within designated school zones are increased or special enforcement techniques such as photo radar systems are used. It is important and sometimes legally necessary to mark the beginning and end points of these designated school zones so that the road user is given proper notice.
- 02 The School (S1-1) sign (see Figure 7B-1) has the following four applications:
- A. School Area – the S1-1 sign can be used to warn road users that they are approaching a school area that might include school buildings or grounds, a school crossing, or school related activity adjacent to the highway.
  - B. School Zone – the S1-1 sign can be used to identify the location of the beginning of a designated school zone (see Section 7B.09).
  - C. School Advance Crossing – if combined with an AHEAD (W16-9P) plaque or an XX FEET (W16-2P or W16-2aP) plaque to comprise the School Advance Crossing assembly, the S1-1 sign can be used to warn road users that they are approaching a crossing where schoolchildren cross the roadway (see Section 7B.11).
  - D. School Crossing – if combined with a diagonal downward pointing arrow (W16-7P) plaque to comprise the School Crossing assembly, the S1-1 sign can be used to warn approaching road users of the location of a crossing where schoolchildren cross the roadway (see Section 7B.12).
- 02A Figure 7B-100 contains information regarding the application and placement of the School Sign (S1-1).

### Section 7B.09 School Zone Sign (S1-1) and Plaques (S4-3P, S4-7P) and END SCHOOL ZONE Sign (S5-2)

Standard:

- 01 ~~If a school zone has been designated under State or local statute as described in Section 7A.02, a School (S1-1) sign (see Figure 7B-1) shall be installed to identify the beginning point(s) of the designated school zone not less than 150 feet nor more than 700 feet in advance of the school grounds or school crossings (see Figure 7B-2-Figure 7B-100).~~

Support:

- 01A “School grounds” typically refer to school property. However, when school property frontage is lengthy, school grounds may be interpreted as the area where students frequently cross the road.

Option:

- 02 A School Zone (S1-1) sign may be supplemented with a SCHOOL (S4-3P) plaque (see Figure 7B-1).
- 03 A School Zone (S1-1) sign may be supplemented with an ALL YEAR (S4-7P) plaque (see Figure 7B-1) if the school operates on a 12-month schedule.
- 04 The downstream end of a designated school zone may be identified with an END SCHOOL ZONE (S5-2) sign (see ~~Figures 7B-1 and 7B-2~~ Figure 7B-100).
- 05 If a school zone is located on a cross street in close proximity to the intersection, a School Zone (S1-1) sign with a supplemental arrow (W16-5P or W16-6P) plaque may be installed on each approach of the street or highway to warn road users making a turn onto the cross street that they will encounter a school zone soon after making the turn.

## Section 7B.10 Higher Fines Zone Signs (R2-10, R2-11) and Plaques

### Standard:

- 01 Where increased fines are imposed for traffic violations within a designated school zone, a **BEGIN HIGHER FINES ZONE (R2-10)** sign (see Figure 7B-1) or a **FINES HIGHER (R2-6P)**, **FINES DOUBLE (R2-6aP)**, or **\$XX FINE (R2-6bP)** plaque (see Figure 2B-3) shall be installed as a supplement to the **School Zone (S1-1)** sign to identify the beginning point of the higher fines zone (see ~~Figures 7B-2 and 7B-3~~ Figure 7B-100).

### Option:

- 02 Where appropriate, one of the following plaques may be mounted below the sign that identifies the beginning point of the higher fines zone:
- A. An **S4-1P** plaque (see Figure 7B-1) specifying the times that the higher fines are in effect,
  - B. A **WHEN CHILDREN ARE PRESENT (S4-2P)** plaque (see Figure 7B-1), or
  - C. A **WHEN FLASHING (S4-4P)** plaque (see Figure 7B-1) if used in conjunction with a yellow flashing beacon.

### Standard:

- 03 Where a **BEGIN HIGHER FINES ZONE (R2-10)** sign or a **FINES HIGHER (R2-6P)** plaque supplementing a **School Zone (S1-1)** sign is posted to notify road users of increased fines for traffic violations, an **END HIGHER FINES ZONE (R2-11)** sign (see Figure 7B-1) or an **END SCHOOL ZONE (S5-2)** sign shall be installed at the downstream end of the zone to notify road users of the termination of the increased fines zone (see ~~Figures 7B-2 and 7B-3~~ Figure 7B-100).

## Section 7B.11 School Advance Crossing Assembly

### Standard:

- 01 The **School Advance Crossing** assembly (see Figure 7B-1) shall consist of a **School (S1-1)** sign supplemented with an **AHEAD (W16-9P)** plaque or an **XX FEET (W16-2P or W16-2aP)** plaque.
- 02 Except as provided in Paragraph 3, a **School Advance Crossing** assembly shall be used in advance (see Table 2C-4 for advance placement guidelines) of the first **School Crossing** assembly (see Section 7B.12) that is encountered in each direction as traffic approaches a school crosswalk (see ~~Figure 7B-4~~ Figure 7B-100).

## Section 7B.12 School Crossing Assembly

### Standard:

- 01 If used, the **School Crossing** assembly (see Figure 7B-1) shall be installed at the school crossing (see ~~Figures 7B-4 and 7B-5~~ Figure 7B-100), or as close to it as possible, and shall consist of a **School (S1-1)** sign supplemented with a diagonal downward pointing arrow (**W16-7P**) plaque to show the location of the crossing.
- 02 The **School Crossing** assembly shall not be used at crossings other than those adjacent to schools and those on established school pedestrian routes.
- 03 The **School Crossing** assembly shall not be installed on approaches controlled by a **STOP** or **YIELD** sign.

## Section 7B.13 School Bus Stop Ahead Sign (S3-1)

### Guidance:

- 01 The **School Bus Stop Ahead (S3-1 or S3-100)** sign (see Figure 7B-1) should be installed in advance of locations where the top flashing lights of a school bus, when stopped to pick up or discharge passengers, is not visible to road users for ~~an adequate distance~~ a distance of 700 feet in advance, and where there is no opportunity to relocate the school bus stop to provide ~~adequate sight distance~~ 700 feet of visibility.
- 01A The **School Bus Stop Ahead** sign should be located at a location where the top flashing lights of a school bus are just visible, assuming a 3.5 foot driver eye height and 8.5 foot height to the top flashing lights of the school bus, but no more than 700 feet from the school bus stop.

Option:

01B A word legend for the School Bus Stop Ahead sign may be used (See S3-100 of the ASDS).

**Section 7B.15 School Speed Limit Assembly (S4-1P, S4-2P, S4-3P, S4-4P, S4-6P, S5-1) and END SCHOOL SPEED LIMIT Sign (S5-3)**

Guidance:

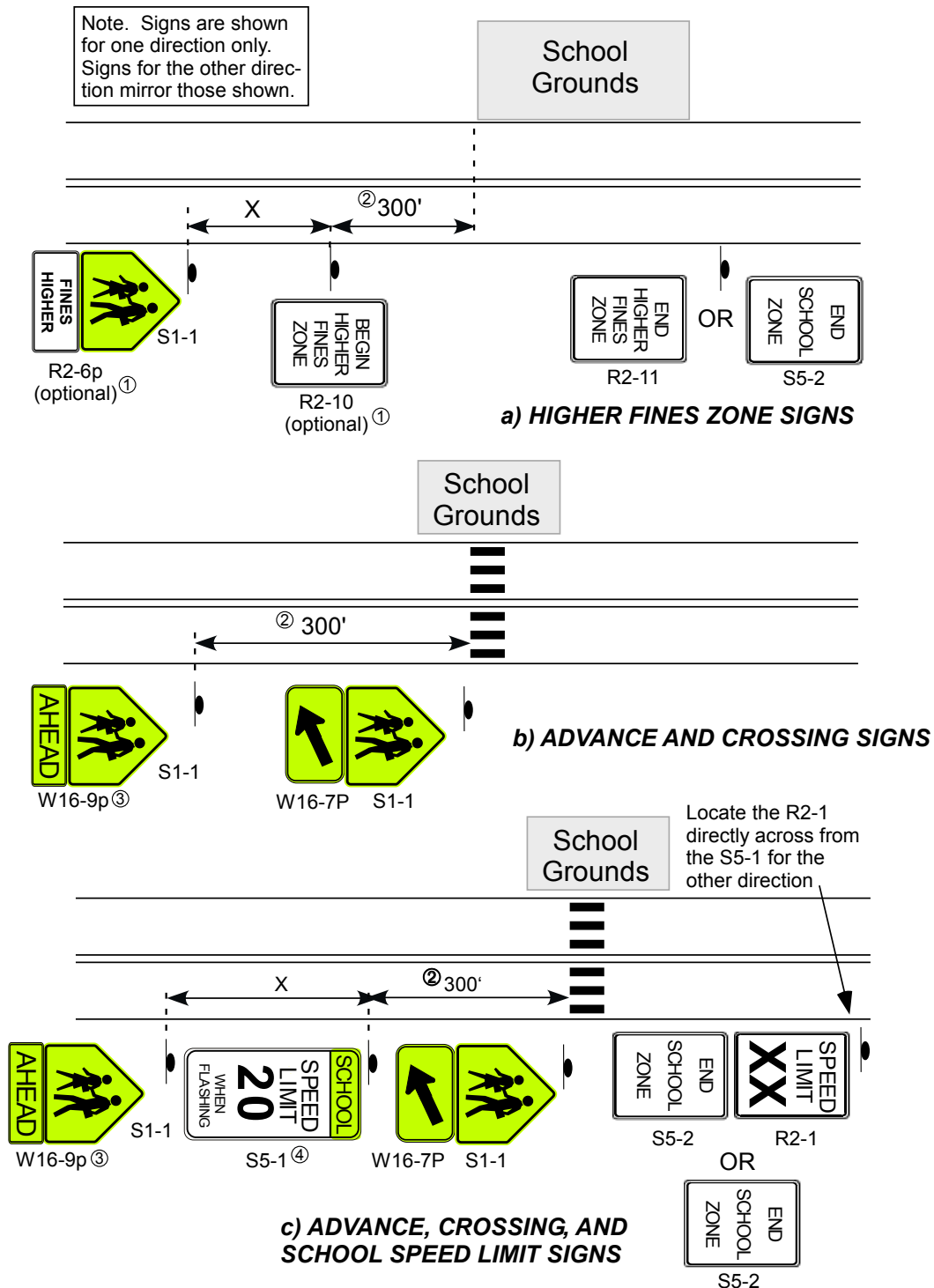
~~07 The beginning point of a reduced school speed limit zone should be at least 200 feet in advance of the school grounds, a school crossing, or other school related activities; however, this 200-foot distance should be increased if the reduced school speed limit is 30 mph or higher.~~

07A The reduced speed school zone should begin at a point approximately 300 feet from the school crosswalk, if there is one. If a marked crosswalk is not present, the reduced speed school zone should begin at a point at approximately 100 feet in advance of the school area.

07B The School Speed Limit (S5-1) sign should be supplemented by a Speed Limit Beacon consisting of three signal sections with a flashing CIRCULAR YELLOW signal indication of 8-inch diameter in each signal section. The signal sections should be mounted vertically directly above the S5-1 sign. The bottom two beacons should be illuminated alternatively and face oncoming traffic. The top flashing beacon should face the opposite direction to indicate when the beacon is in operation.



**Figure 7B-100. School Zone Traffic Control**



① Use either R2-6p or R2-10

② 300' (see 13 AAC 02.325) from crosswalk, if there is one, or 100' from school grounds or frequently-used crossing areas (see 7B.11)

X: Advance warning distance in feet (See MUTCD Table 2C-4 - Use Condition B)

③ W16-9p signs may be replaced with W16-2 "XX FT" or W16-2a "XX FEET" signs.

④ Options to the S5-1: School Speed Limit Assemblies with Time of Day (S4-1p), WHEN CHILDREN ARE PRESENT (S4-2p), or Day of Week (S4-6p) plates.



## **Section 7B.16 Reduced School Speed Limit Ahead Sign (S4-5, S4-5a)**

### *Guidance:*

- <sup>01</sup> *A Reduced School Speed Limit Ahead (S4-5, S4-5a) sign (see Figure 7B-1) should be used to inform road users of a reduced speed zone where the speed limit is being reduced by ~~more than 10 mph~~ 20 mph or more, or where engineering judgment indicates that advance notice would be appropriate.*

## **Section 7B.100 DRUG FREE SCHOOL ZONE Sign (S6-100)**

[This is a new section. There is no corresponding section in the MUTCD.]

### **Standard:**

- <sup>01</sup> **Alaska Statute 28.01.010(d) states, “The municipality shall post a sign indicating that the school is a drug-free school zone at each location in which it has installed a sign identifying the location of a school.” Accordingly, signs conveying this message shall be placed below, or near, all School Advance Warning (S1-1) signs.**

### **Support:**

- <sup>02</sup> The posting of this sign is a municipal, not a state, responsibility.

### **Option:**

- <sup>03</sup> The sign may be the S6-100 shown in the ASDS or another sign that conveys the required message.

## CHAPTER 7C. MARKINGS

### Section 7C.02 Crosswalk Markings

#### *Guidance:*

- 01 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).*
- 02 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 or YIELD sign.*
- 03 Because non-intersection school crossings are generally unexpected by the road user, warning signs (see Sections 7B.11 and 7B.12) should be installed for all marked school crosswalks at non-intersection locations. Adequate visibility of students by approaching motorists and of approaching motorists by students should be provided by parking prohibitions or other appropriate measures.*

#### *Support:*

- 04 Section 3B.18 contains provisions regarding the placement and design of crosswalks, and Section 3B.16 contains provisions regarding the placement and design of the stop lines and yield lines that are associated with them. Provisions regarding the curb markings that can be used to establish parking regulations on the approaches to crosswalks are contained in Section 3B.23.*

#### **Standard:**

- 04A Crosswalk markings shall be placed at officially designated school crossings.**
- 04B School crosswalks shall be installed in accordance with the applicable provisions of Section 3B.18.**

## CHAPTER 7D. CROSSING SUPERVISION

### Section 7D.01 Types of Crossing Supervision

Support:

- 01 There are three types of school crossing supervision:
  - A. Adult control of pedestrians and vehicles by adult crossing guards,
  - B. Adult control of pedestrians and vehicles by uniformed law enforcement officers, and
  - C. Student and/or parent control of only pedestrians with student and/or parent patrols.
- 02 Information regarding the organization, administration, and operation of a school safety patrol program is contained in the “AAA School Safety Patrol Operations Manual” (see Section 1A.11).

**Standard:**

- 03 **School districts shall be responsible for deciding where to provide appropriate crossing supervision, for compensating them, and for ensuring appropriate high-visibility apparel is worn.**

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