

TECHNICAL COMMITTEE: Railroad and Light Rail Transit Technical Committee

DATE OF ACTION: June 25, 2004

TOPIC: Crossbuck with Yield or Stop Signs and Advance Signs.

STATUS: Accepted by the National Committee

Section 8B.01 Purpose

Support:

Passive traffic control systems, consisting of signs and pavement markings, identify and direct attention to the location of a highway-rail grade crossing and advise ~~motorists, bicyclists, and pedestrians to take appropriate action~~ road users to slow down or stop at the crossing as necessary in order to yield to any rail traffic occupying, or approaching and in proximity to, the crossing.

Section 8B.03 Highway-Rail Grade Crossing (Crossbuck) Sign (R15-1) and Number of Tracks Sign (R15-2)

Standard:

The Highway-Rail Grade Crossing (R15-1) sign, commonly identified as the Crossbuck sign, shall be retroreflectorized white with the words RAILROAD CROSSING in black lettering, mounted as shown in Figure 8B-1.

As a minimum, one Crossbuck sign shall be used on each highway approach to every highway-rail grade crossing, alone or in combination with other traffic control devices.

If automatic gates are not present and if there are two or more tracks at the highway-rail grade crossing, the number of tracks shall be indicated on a supplemental Number of Tracks (R15-2) sign of inverted T shape mounted below the Crossbuck sign in the manner and at the height indicated in Figure 8B-1.

A strip of retroreflective white material not less than 50 mm (2 in) in width shall be used on the back of each blade of each Crossbuck sign for the length of each blade, at all highway-rail grade crossings, except those where Crossbuck signs have been installed back-to-back.

Option:

The Crossbuck (R15-1) sign at non-signalized crossings may also be reflectorized white with the words RAILROAD CROSSING in red letters.

The supplemental Number of Tracks (R15-2) sign may also be used at highway-rail grade crossings with automatic gates.

Support:

The Crossbuck (R15-1) sign assigns right-of-way to rail traffic at a highway-rail grade crossing.

Section 8B.04 Highway-Rail Grade Crossing Crossbuck Assembly (R15-1, R15-2, and R1-1 or R1-2)

Standard:

The Highway-Rail Grade Crossing Crossbuck Assembly shall consist of a Crossbuck (R15-1) sign, a Number of Tracks (R15-2) sign if two or more tracks are present, and either a YIELD (R1-2) sign or a STOP (R1-1) sign installed on the same support, except as provided in the option below.

Option:

The YIELD (R1-2) sign or STOP (R1-1) sign may be installed on a separate support if required by the responsible regulatory agency or authority.

Standard:

If separate sign supports are used, the YIELD or STOP sign support and Crossbuck support shall be positioned relative to each other as indicated in Figure 8B-2 and Figure 8B-6.

Standard:

At all public highway-rail grade crossings not equipped with active traffic control systems as described in Chapter 8D, ~~The~~ a Crossbuck Assembly shall be installed on the right side of the highway on each approach to the highway-rail grade crossing. The YIELD (R1-2) sign or STOP (R1-1) sign shall be placed on the crossbuck post as indicated in Figure 8B-1 and Figure 8B-6. Where restricted sight distance or unfavorable highway geometry exists on an approach to a highway-rail grade crossing, or where there is one way multilane approach, an additional Crossbuck Assembly sign shall be installed on the left side of the highway. ~~, possibly placed back-to-back with the Crossbuck sign for the opposite approach, or otherwise located so that two Crossbuck signs are displayed for that approach.~~

A STOP (R1-1) sign shall only be included in the Crossbuck Assembly when the criteria in Section 8B.05 are met. The determination to include a STOP (R1-1) sign in a Crossbuck Assembly shall be made by the regulatory agency or highway authority having jurisdiction over the roadway approach.

Option:

The YIELD (R1-2) sign or STOP (R1-1) sign may be omitted from the Crossbuck Assembly on passive crossings where either of the following conditions exist:

- A. All rail traffic movements are 10 MPH or less; and all rail traffic movements over the crossing are stopped near the roadway edge by the train crew prior to entering the crossing or all rail traffic movements directed by a flagger prior to occupying the crossing.

Or

- B. When an EXEMPT Highway-Rail Grade Crossing (R15-3, W10-1a) sign is installed in accordance with Section 8B.07.

The entire Crossbuck Assembly may be omitted on one or both sides of passive crossings where all of the following conditions exist:

- A. There is no reasonable location* to install them; and
- B. All rail traffic movements are 10 MPH or less; and
- C. All rail traffic movements over the crossing are stopped near the roadway edge by the train crew prior to entering the crossing or all rail traffic movements are directed by a flagger prior to occupying the crossing.

Guidance:

When train speeds are above 10 MPH or rail traffic movements cannot appropriately yield to road users, Crossbuck Assemblies should be provided and reasonable locations* for such signs should be created by necessary roadway realignment or railway relocation.

*Reasonable locations for Crossbuck Assemblies should not be in conflict with turning vehicles from roadways either closely parallel to the track or visually obstructed from approaching roadway users.

Standard:

~~A strip of retroreflective white material not less than 50 mm (2 in) in width shall be used on the back of each blade of each Crossbuck sign for the length of each blade, at all highway-rail grade crossings, except those where Crossbuck signs have been installed back to back.~~

A **vertical** strip of retroreflective white material, not less than 50 mm (2 in) in width, shall be used on each **Crossbuck Assembly** support at passive highway-rail grade crossings on the **front and back** of the support from the **bottom of the Crossbuck sign or Number of Tracks sign** to within 0.6 m (2 ft) above the **edge of the roadway**. ~~or on the back side of supports for Crossbuck signs installed on one-way streets.~~

On Crossbuck Assembly where the YIELD or STOP sign has been omitted or is on a separate post, a vertical strip of retroreflective white material, not less than 50 mm (2 in) in width, shall be on the front of the support from the bottom of the Crossbuck sign or Number of Tracks sign to within 0.6m (2 ft) above the roadway level.

Option:

The vertical strip of retroreflective material may be omitted from the back sides of Crossbuck Assembly supports installed on one-way streets.

Guidance:

Crossbuck **Assemblies signs** should be located with respect to the highway pavement or shoulder in accordance with the criteria in Chapter 2A and Figures 2A-1 and 2A-2, and should be located with respect to the nearest track in accordance with Figure 8D-3 ~~2~~.

The minimum lateral clearance for the nearest edge of the Crossbuck **Assembly sign** should be 1.8 m (6 ft) from the edge of the shoulder or 3.7 m (12 ft) from the edge of the traveled way in rural areas (whichever is greater), and 0.6 m (2 ft) from the face of the curb in urban areas.

Where unusual conditions make variations in location and lateral clearance appropriate, engineering judgment should be used to provide the best practical combination of view and safety clearances.

Support:

The meaning of a Crossbuck Assembly which includes a YIELD sign is that a road user approaching the highway-rail crossing shall be prepared to slow, and when necessary, yield the right-of-way to any rail traffic that may be occupying the crossing, or approaching and in proximity to the crossing, such that it would be unsafe for the road user to cross.

The meaning of a Crossbuck Assembly which includes a STOP sign is that a road user approaching the highway-rail crossing shall come to a full and complete stop not less than 15 feet short of the near rail, and remain stopped while the road user determines if there is rail traffic occupying the crossing, or approaching and in proximity to the crossing, such that the road user must yield the right of way to rail traffic. The road user may then proceed when it is safe to cross.

Section 8B.085 Crossbuck Assemblies which include STOP (R1-1) or YIELD (R1-2) Signs at Highway-Rail Grade Crossings

Option-Standard:

~~At the discretion of~~ Upon a determination by the responsible State regulatory agency or local highway authority agency, Crossbuck Assemblies which include STOP (R1-1) or YIELD (R1-2) signs (see Figure 28B-1) ~~may~~ shall be used at highway-rail grade crossings ~~that have two or more trains per day and are without automatic traffic control devices~~ where the need has been established by an engineering study, except that Crossbuck Assemblies which include STOP signs shall not be installed at any crossing with active traffic control devices.

Support:

~~Two or more trains per day means an average of two or more trains per day operating over the highway-rail grade crossing for a 12-month period prior to the installation of the STOP or YIELD control sign.~~

Option:

~~For other highway-rail grade crossings with passive warning devices, STOP or YIELD signs may be used based on an engineering study.~~

Guidance:

The engineering study should take into consideration such factors as highway and train traffic characteristics (including volume and speed), collision history, the need for active control devices, and available corner sight distance to the approaching train.

Crossbuck Assemblies which include STOP signs should not be installed at crossings having more than 2000 AADT except as an interim measure pending the installation of active devices.

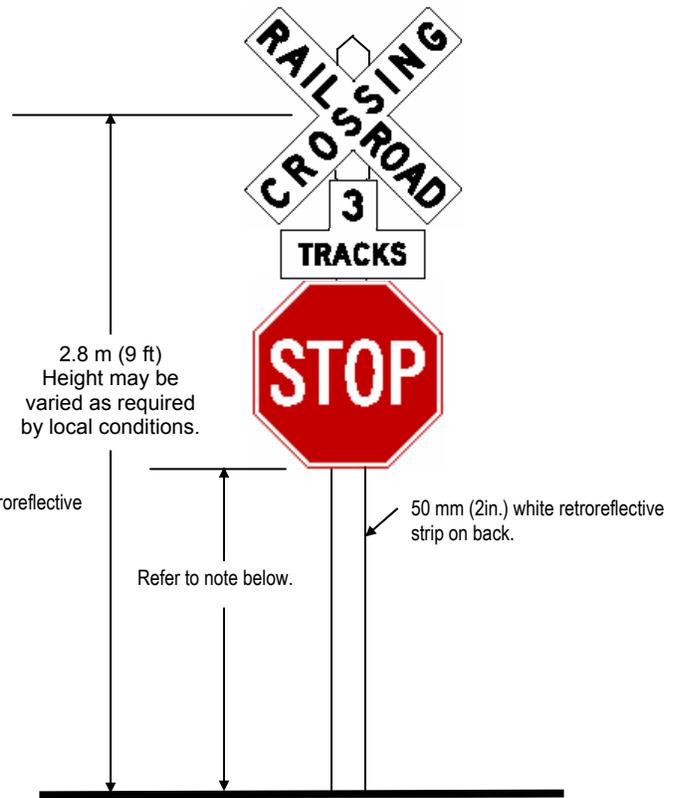
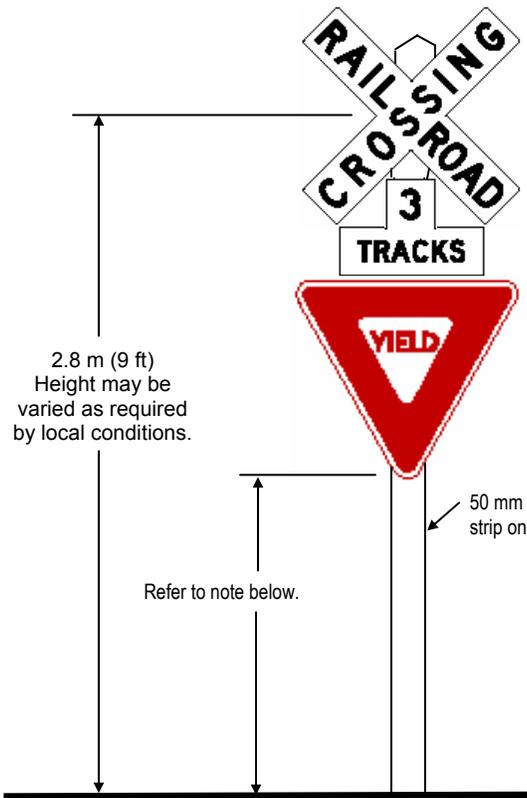
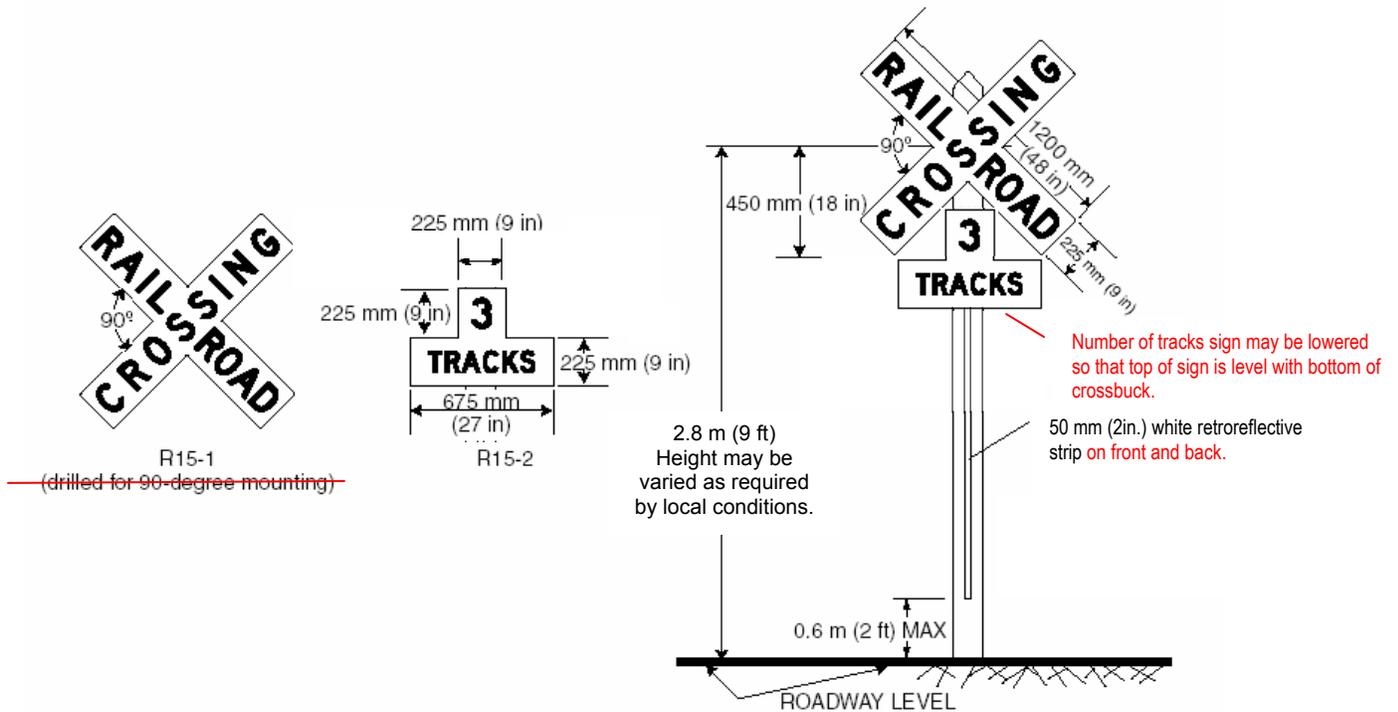
Option:

~~If a STOP or YIELD sign is installed at a highway-rail grade crossing, it may be installed on the Crossbuck post or on a separate post at a point where the vehicle is to stop, or as near to that point as practical.~~

Standard:

~~For all highway-rail grade crossings where STOP or YIELD signs are installed, the placement shall conform to the requirements of Sections 2B.06 and 2B.10. Stop Ahead (W3-1) or Yield Ahead (W3-2) Advance Warning signs (see Figure 2C-4) shall also be installed if the criteria for their installation given in Section 2C.29 is met.~~

Figure 8B-1. Highway-Rail Grade Crossing (Crossbuck) Regulatory Signs



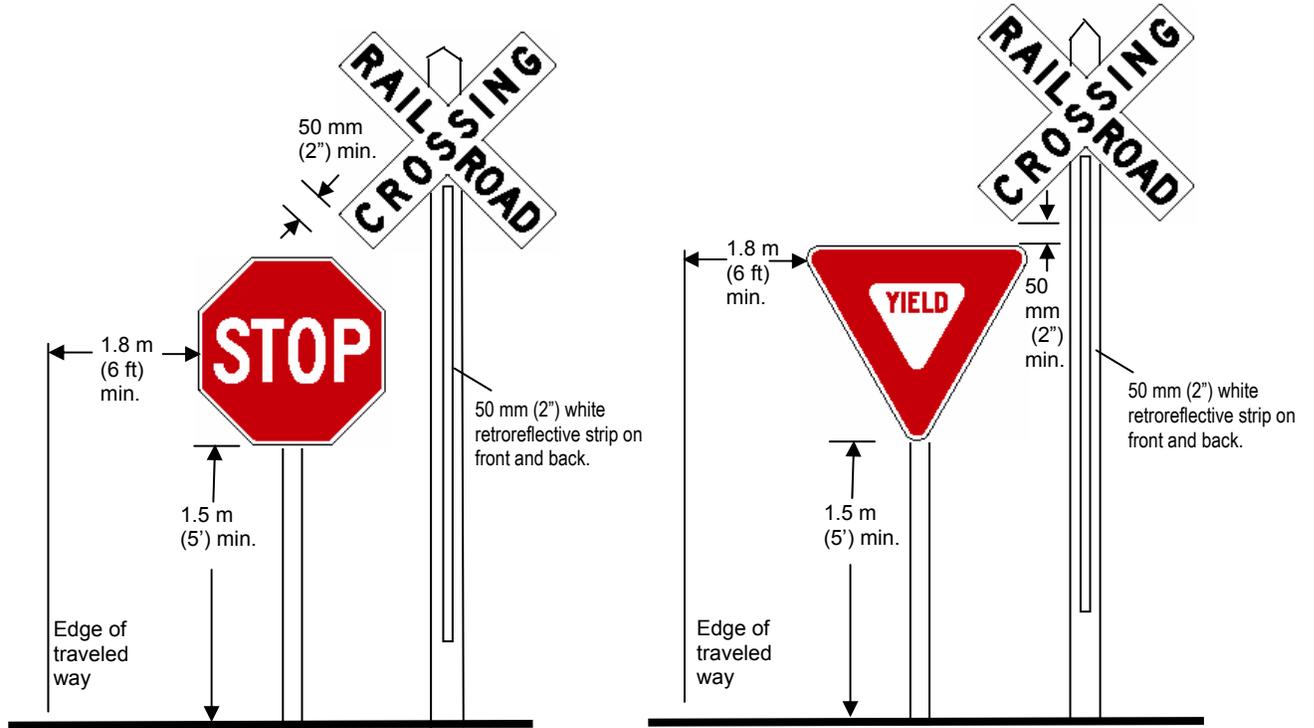
Note:

1.2 m (4'0") minimum when retrofit to existing Crossbuck sign supports (until compliance period expires).

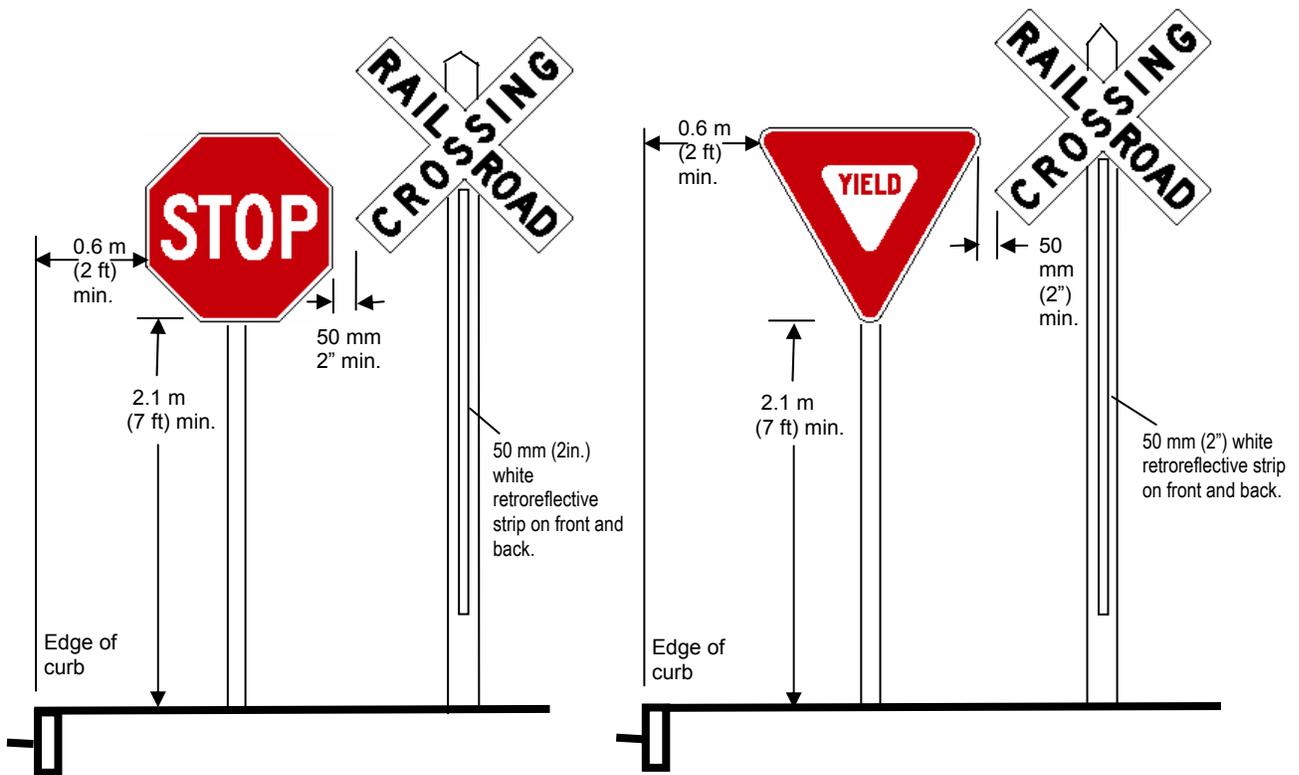
1.5 m (5'0") minimum for new installations.

2.1 m (7'0") minimum in areas with pedestrian or parking conflicts.

Figure 8B-2. Highway-Rail Grade Crossings (Crossbuck) Regulatory Signs with Separate Posts



Rural

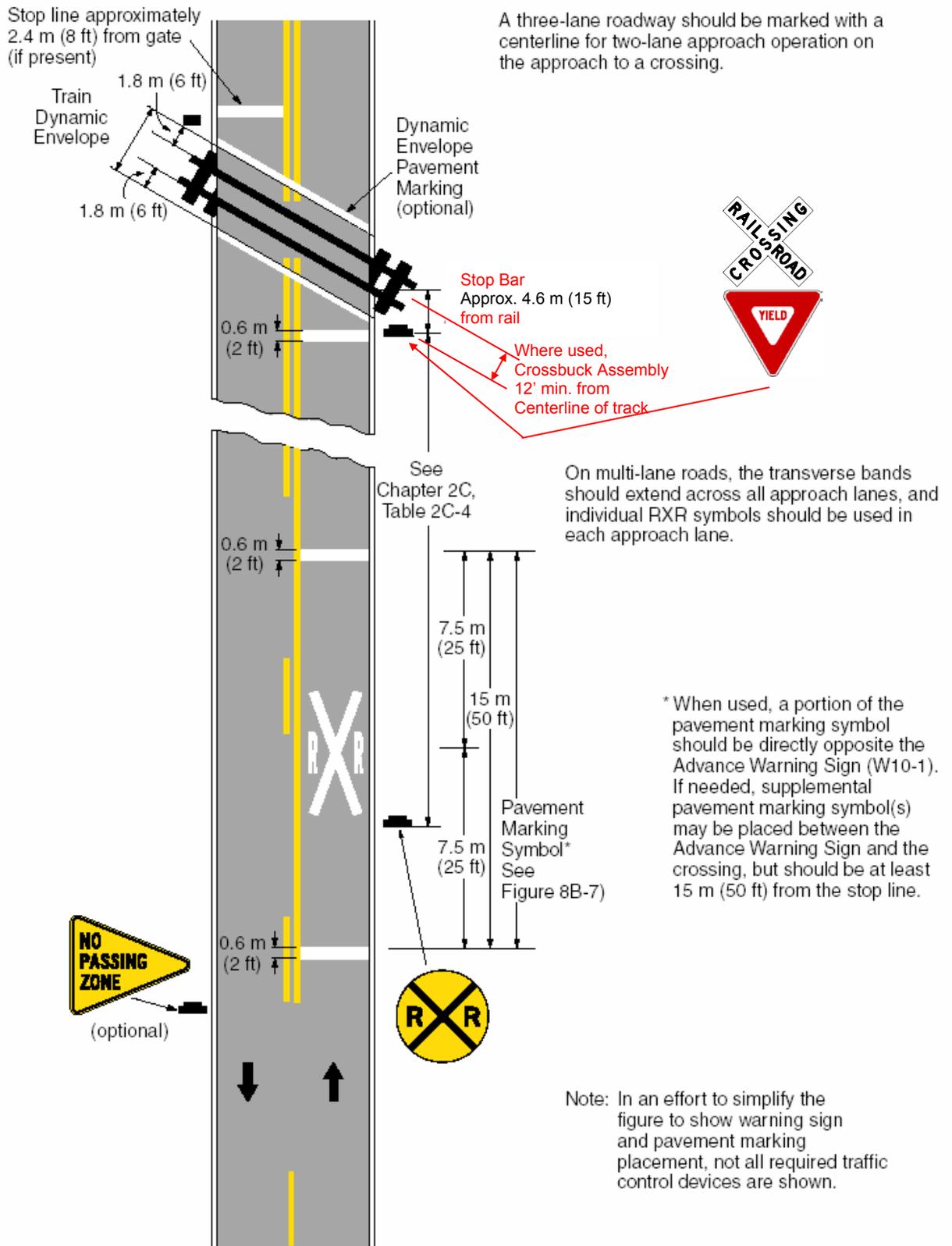


Pedestrian Facility

Note:

Face of signs are in the same plane and YIELD or STOP Sign is closest to the traveled way.
 2" minimum separation between the edge of the Crossbuck sign and edge of YIELD or STOP sign.

Figure 8B-6. Example of Placement of Warning Signs and Pavement Markings at Highway-Rail Grade Crossings



Legend

→ Direction of travel

Section 8B.06 4 Highway-Rail Grade Crossing Advance Warning Signs (W10 Series)

Standard:

A Highway-Rail Grade Crossing Advance Warning (W10-1) sign (see Figure 8B-2) **with a supplemental plaque describing the type of traffic control at the highway-rail grade crossing installed directly beneath it** shall be used on each highway in advance of every highway-rail grade crossing except in the following circumstances:

- A. On an approach to a highway-rail grade crossing from a T-intersection with a parallel highway, if the distance from the edge of the track to the edge of the parallel roadway is less than 30 m (100 ft), and W10-3 signs are used on both approaches of the parallel highway; or
- B. On low-volume, low-speed highways crossing minor spurs or other tracks that are infrequently used and are flagged by train crews; or
- C. In business districts where active highway-rail grade crossing traffic control devices are in use; or
- D. Where physical conditions do not permit even a partially effective display of the sign.

The supplemental plaque shall be an Active Control (W10-16) sign for those crossings with active traffic control devices and be a No Signal (W10-10) sign for those crossings without active traffic control devices.

Placement of the Highway-Rail Grade Crossing Advance Warning sign shall be in accordance with ~~Chapter 2A~~ **Section 2C.05** and Table 2C-4.

Yield Ahead (W3-2) or Stop Ahead (W3-1) Advance Warning sign (see Figure 2C-4) shall also be installed if the criteria for their installation given in Section 2C.29 is met. If a Yield Ahead or Stop Ahead sign is installed on the approach to the crossing, the W10-1 sign and supplemental plaque shall be installed in advance of the Yield Ahead or Stop Ahead sign. The Yield Ahead or Stop Ahead sign shall be located in accordance with Table 2C-4. The minimum distance between the signs shall be in accordance with Section 2C.05 and Table 2C-4.

Option:

On divided highways and one-way streets, an additional W10-1 sign **with the appropriate supplemental plaque underneath** may be installed on the left side of the roadway.

Standard:

If the distance between the railroad tracks and a parallel highway, from the edge of the tracks to the edge of the parallel roadway, is less than 30 m (100 ft), W10-2, W10-3, or W10-4 signs (see Figure 8B-2) shall be installed on each approach of the parallel highway to warn road users making a turn that they will encounter a highway-rail grade crossing soon after making a turn, and a W10-1 sign for the approach to the tracks shall not be required to be between the tracks and the parallel highway.

If the W10-2, W10-3, or W10-4 signs are used, sign placement in accordance with the guidelines for Intersection Warning signs in Table 2C-4 using the speed of through traffic shall be measured from the highway intersection.

Guidance:

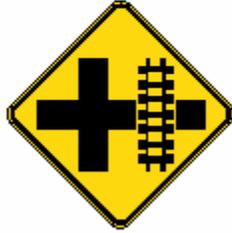
If the distance between the railroad tracks and the parallel highway, from the edge of the tracks to the edge of the parallel roadway, is 30 m (100 ft) or more, a W10-1 sign **with the appropriate supplemental**

plaque sign underneath should be installed in advance of the highway rail grade crossing, and the W10-2, W10-3, or W10-4 signs should not be used on the parallel highway.

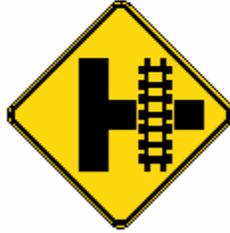
Figure 8B-2. Advance Warning Signs



W10-1



W10-2



W10-3



W10-4



W10-16



W10-10

Section 8B.15 ~~NO SIGNAL Sign (W10-10) or NO GATES OR LIGHTS Sign (W10-13)~~

Option:

~~A NO SIGNAL (W10-10) sign or a NO GATES OR LIGHTS (W10-13) sign (see Figure 8B-5) may be installed at highway-rail grade crossings that are not equipped with automated signals.~~

~~The NO SIGNAL (W10-10) sign or the NO GATES OR LIGHTS (W10-13) sign may be mounted as a supplemental plaque below the Advance Warning (W10-1) sign.~~

Section 8B.16 LOOK Sign (R15-8)

Option:

At highway-rail grade crossings, the LOOK (R15-8) sign (see Figure 8B-3) may be mounted ~~as a supplemental plaque on the Crossbuck (R15-1) sign post, or as on~~ a separate sign post in the immediate vicinity of the highway-rail grade crossing on the railroad right-of-way.