

ATTACHMENT NO. 8

RRLRT No. W2008-03

Approved by NCUTCD Council January 12, 2008

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**TECHNICAL COMMITTEE:** Railroad and Light Rail Transit Technical Committee

**DATE OF ACTION:** January 12, 2008

**TOPIC:** MUTCD Proposed Additions to New Manual Chapter 8F (as approved 01/19/2007 by NC)

**ORIGIN:** Railroad and Light Rail Transit Technical Committee

**DISCUSSION:** Pending National Committee Action

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**CHAPTER 1. GENERAL**

**Section 1A.13 Definitions of Words and Phrases in This Manual**

**Pathway** —a general term denoting a public way for purposes of travel by authorized users outside the traveled way and physically separated from the roadway by an open space or barrier and either within the highway right-of-way or within an independent alignment. Pathways include shared-use paths, but are exclusive of sidewalks.

**CHAPTER 8A. GENERAL**

**Section 8A.01 Introduction**

- 24. Pathway-Rail Grade Crossing** – the general area where a pathway and a railroad cross at the same level, within which are included the railroad tracks, pathway, design features, and traffic control devices for pathway traffic traversing that area.
- 25. Station Crossing** – a general term for a type of pathway-rail grade crossing associated with station platform

## CHAPTER 8F. PATHWAY-RAIL GRADE CROSSINGS

### **Section 8F.01 Purpose**

Support:

Traffic control for pathway-rail grade crossings includes all signs, signals, markings, other warning devices, and their supports at pathway-rail grade crossings and along pathway approaches to a crossing. The function of this traffic control is to promote safety and effective operation of both rail and pathway traffic at pathway-rail grade crossings.

Except as otherwise noted herein, sidewalks are treated as part of a highway-rail grade crossing, and are not covered by this chapter.

### **Section 8F.02 Use of Standard Devices, Systems, and Practices**

Support:

The public agency with jurisdiction over the pathway and the regulatory agency with statutory authority, if applicable, jointly determine the need and selection of devices at a pathway-rail grade crossing.

Guidance:

The appropriate traffic control system to be used at a pathway-rail grade crossing should be determined by a diagnostic team.

### **Section 8F.03 Pathway-Rail Grade Crossing Signs and Markings**

Standard:

**Pathway-rail grade crossing signs shall be standard in shape, legend, and color.**

**Traffic control devices mounted on pathways at a height less than 2.4 m (8ft) measured from the bottom edge of the device to the near edge of the pathway surface shall have a minimum lateral clearance of 0.6 m (2 ft) from the near edge of the sign to the near edge of the path (see Figure 8F-1).**

**Mounting height for ground-mounted signs on pathways shall be a minimum of 1.2 m (4 ft), measured from the bottom edge of the sign to the near edge of the pathway surface (see Figure 8F-1).**

**Pathway-rail grade crossing traffic control devices shall be a minimum of 3.7 m (12 ft) from centerline of nearest track.**

**The sizes of pathway-rail grade crossing signs shall be as shown in Table 8F-1.**

**When overhead traffic control devices are used on pathways, the clearance from the bottom edge of the device to the pathway surface directly under the sign or device shall be a minimum of 2.4 m (8 ft) and may be increased based on engineering judgment for the intended user of pathway.**

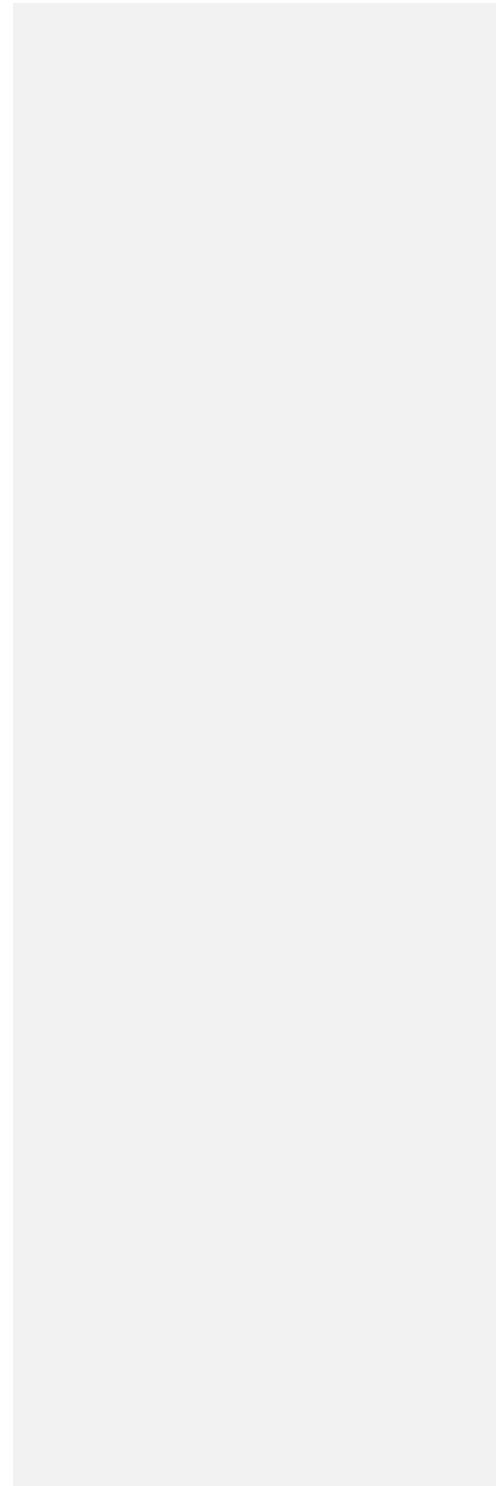
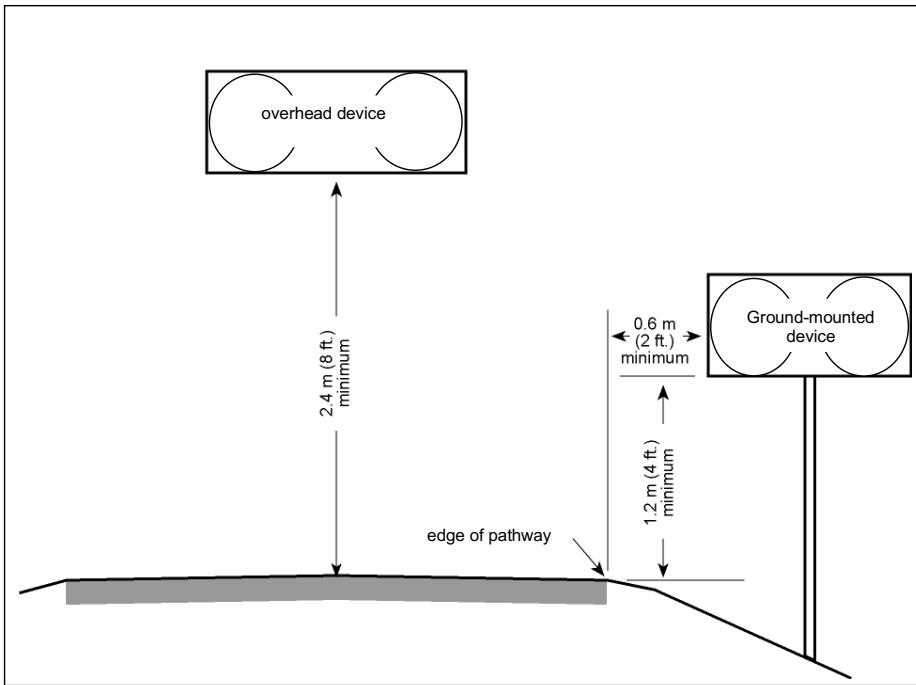
Guidance:

If other than pedestrians use the pathway-rail grade crossing, advance warning signs and advanced pavement markings should be considered.

Option:

Advance warning signs and advance pavement markings may be used as recommended by a diagnostic team

**Figure 8F-1. Sign and Device Placement on approaches to Pathway-rail grade crossings**



**Table 8F-1. Sign Sizes for Pathway-Rail Grade Crossing Signs**

Sign	MUTCD Code	Minimum Sign Size
Railroad Crossbuck	R15-1	600 x 112 (24 x 4.5)
Number of Tracks	R15-2	337 x 225 (13.5 x 9)
Look	R15-8	450 x 225 (18 x 9)
Advance Grade Crossing	W10-1	450 Dia. (18 Dia.)
Stop	R1-1	450 x 450 (18 x 18)
Yield	R1-2	450 x 450 x 450 (18 x 18 x 18)
Skewed Crossing	W10-12	450 x 450 (18 x 18)

Notes:

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

**Section 8F.04 Stop Lines, Detectable Warnings, and Edge Lines**

Guidance:

If used on pathway-rail-grade crossings, the stop line should be a transverse line at a point where a pathway user is to stop. The stop line should be placed no closer than 0.6 m (2 ft) in advance of the gate or counterweight (if present), but no closer than 3.6 m (12 ft) from the nearest rail on both sides of track (see Sections 3A.04, 3A.05, and 3B.22).

If used on pathway-rail grade crossings or sidewalks at highway-rail grade crossings, detectable warnings (see Section 3B.17) should extend the full width of the pathway or sidewalk and 0.6 m (2 ft) in the pedestrian direction of travel. Detectable warnings should be placed no less than 0.6 m (2 ft) in advance of gate or counterweight (if present), but no closer than the stop line (if present) or 3.6 m (12 ft) from the nearest rail on both sides of the track.

Option:

Edge lines specified in Section 3A.03 may be used on approach to and across the tracks at a pathway-rail grade crossing, a station crossing, or sidewalk at a highway-rail grade crossing to delineate the designated pathway user route.

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Support:

This delineation is desirable where the distance across the tracks is long, commonly due to a skew track angle or multiple tracks, or where the surface is immediately adjacent to a traveled way.

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## **Section 8F.05 Passive Devices for Pathway-Rail Grade Crossings**

### **Standard:**

Where active traffic control devices are not utilized, a Crossbuck Assembly shall be installed on each approach to a Pathway-Rail Grade Crossing.

### **Option:**

A separate Crossbuck Assembly may be omitted for a pathway-rail grade crossing located within 7.6 m (25 ft) of the traveled way at a highway-rail grade crossing or at station crossings.

### **Guidance:**

The user's ability to detect the presence of an approaching train should be considered in determining the type and placement of traffic control devices or design features (such as fencing or swing gates).

Nighttime visibility should be considered if design features (such as fencing or swing gates) are used to channelize pathway users.

### **Standard:**

Where used, swing gates shall open away from the track(s) and return to the closed position after use.

Where used, swing gates shall be equipped with a smooth surface on the push side extending the full width of the gate within 0.25 m (10 in) of the pathway surface (kick plate).

### **Option:**

When used in conjunction with automatic gates at pathway-rail grade crossings, swing gates may be equipped with a latching device which permits the gate to be opened only from the track side of the gate.

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### **Guidance:**

When automatic gates and swing gates are used, the pathway should be channelized to direct users to the entrance to and exit from the pathway-rail grade crossing.

Refuge areas may be provided where large numbers of pathway users congregate during the passage of a train.

Where refuge areas are provided, fencing should be installed to limit access only to the pathway-rail crossing.

**Support:**

Further guidance on clear width and wheelchair turning space can be found in “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)” (see Section 1A.11).

**Section 8F.06 Active Traffic Control Systems for Pathway-Rail Grade Crossings**

**Standard:**

**If used at a pathway-rail grade crossing, an active traffic control system shall include both flashing lights and a bell or other audible warning device. A traffic control device shall be provided on both sides of the track(s).**

**Option:**

Separate active traffic control devices may be omitted for a pathway-rail grade crossing located within 7.6 m (25 ft) of the traveled way at a highway-rail grade crossing equipped with an active traffic control system.

**Standard:**

**If used at pathway-rail grade crossings, alternately flashing red lights shall utilize minimum 100mm (4 in) diameter light units, be aligned horizontally, and a minimum height of 1.2 m (4 ft) above the near edge of the pathway.**

**Option:**

Traffic control devices may be installed between tracks at multiple track locations at station crossings as recommended by a diagnostic team.

**Standard:**

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~~If used at a pathway-rail grade crossing, station crossing, or a sidewalk at a highway-rail grade crossing, fencing mazes shall be oriented to guide users to look in both directions for approaching trains.~~

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**If used at station crossings, flashing lights located between tracks shall be installed at a minimum of 300 mm (12 in) above the near edge of the pathway.**

Option:

Automatic gates may be used at pathway-rail grade crossings as recommended by a diagnostic team.

Guidance:

If used at a pathway-rail grade crossing, each automatic gate should be installed a minimum of 0.9 m (3 ft) above the pathway.

Guidance:

If used, the gate configuration should provide for full width coverage of the pathway on both approaches to the track.

If automatic gates providing full width coverage are used at a pathway-rail grade crossing, a station crossing, or a sidewalk at a highway-rail grade crossing, and an alternate exit route or refuge area is not available, an emergency exit swing gate should be considered to avoid entrapment.

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If used, emergency exit swing gates should be marked to guide users on proper operation.

Support:

Further guidance on spring hinges and door and gate opening force for swing gates can be found in “Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)” (see Section 1A.11).

**Standard:**

**Where sidewalks are located between the edge of a roadway and active traffic control devices, the location, placement and height prescribed for roadway gates shall be utilized (see Section 8D.01).**

Guidance:

Separate automatic gates used at sidewalks should be installed a minimum of 0.9 m (3 ft) above the sidewalk.



A separate gate mechanism for sidewalks should be provided in lieu of a supplemental or auxiliary gate arm installed as a part of the same mechanism to prevent a pedestrian from raising the vehicular gate at a highway-rail grade crossing

