

Railroad – Highway Crossing Safety Rules

Chapter 741

Divisions 100, 110, 115, 120, 125 and 200

November 2020



Rail Safety Section
Commerce and Compliance Division

Chapter 741 Oregon Administrative Rules (OAR)

Division 100 Railroad – Highway Crossings — General	4
741-100-0005 Jurisdiction of the State	4
741-100-0010 Measurements	4
741-100-0020 Definitions.....	4
741-100-0030 Adoption of Tables and Figures Related to Railroad-Highway Crossings	6
741-100-0040 Display of U.S. DOT Inventory Number	6
Division 110 Protective Devices at Crossings	7
741-110-0010 Purpose and Scope of Rules.....	7
741-110-0020 Application of Rules to Existing Protective Devices.....	7
741-110-0030 Standard Protective Devices	7
741-110-0040 Location of Protective Devices.....	9
741-110-0050 Authority Required for Installation, Removal or Change of Protective Devices/Exceptions	9
741-110-0060 Required Installation of Specified Protective Devices	10
741-110-0070 Operation of Active Devices	10
741-110-0080 Observance of Railroad Stop Signs	11
741-110-0090 Maintenance and Replacement of Protective Devices.....	11
Division 115 Allocation of Monies to Defray Costs of Maintaining Active Protective Devices at Railroad – Highway Crossings	12
741-115-0010 Definitions.....	12
741-115-0020 Procedure for Allocation of Monies.....	12
741-115-0030 Responsibility for Installation and Maintenance of Protective Devices.....	12
741-115-0040 Special Requirements for Traffic Signal Preemption Control.....	13
741-115-0050 Experimental Devices	13
741-115-0060 Stop Signs at Private Crossings	14
741-115-0070 Bicycle Lane and Multi-use Path Construction	14
741-115-0080 Vegetation Control at Grade Crossings	14
Division 120 Maintenance, Construction and Closure of Crossings	15
741-120-0010 Responsibility for Maintenance of Grade Crossings.....	15
741-120-0020 Grade Crossing Construction and Maintenance	15
741-120-0025 Sidewalk Construction and Maintenance	16
741-120-0030 Separated Crossing Construction and Maintenance	16
741-120-0040 Authority for Closure of Crossings and Removal of Tracks at Crossings.....	16
741-120-0050 Permanent Closure and Removal of Grade Crossings	17
Division 125 Crossing Blockage, Whistles and Setback	18
741-125-0030 Railroad Equipment Set Back from Railroad-Highway Grade Crossings.....	18

Division 200 Applications	19
741-200-0010 Purpose.....	19
741-200-0020 Applications Required.....	19
741-200-0030 Persons Who May Make Application	19
741-200-0040 Form of Applications	19
741-200-0050 Information to Accompany Application.....	20
741-200-0060 Application Alternative	21
741-200-0065 Submittal Process	21
741-200-0080 Assignment of Responsibility for Continuing Costs	21
741-200-0090 Expiration of Authority to Construct Crossings	21
TABLE 1 — Safe Stopping Distances (SSD)	22
TABLE 2 — Maintenance Responsibilities	23
Railroad Stop Sign	25
High Level Warning Device	26
Train-Activated Advance Warning Device	27
Illumination	28
Private Crossing stop Sign Detail	29
Advance Warning Signs (AWS)	30

Division 100

Railroad – Highway Crossings — General

741-100-0005

Jurisdiction of the State

The jurisdiction of the state for the regulation of highway-rail grade crossings includes all roadways open to or to be opened to and used by the public, which are equipped with protective devices as required under OAR chapter 741, divisions 100 through 200, or by Order of the Department. The state's jurisdiction extends a distance equal to the safe stopping distance, for the posted or statutory speed, measured back from the location of the stop clearance lines at the highway-rail grade crossing.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-100-0010

Measurements

Unless otherwise specified, measurements used in these rules refer to the distance from the centerline of the nearest track or roadway to the centerline of the nearest signal mast, post or other structure.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-100-0020

Definitions

As used in OAR chapter 741, divisions 100 through 200, the following definitions apply:

- (1) "Alter" means any change to the roadway or tracks at a crossing that materially affects use of the crossing by railroad equipment, vehicles, or pedestrians. Alterations include, but are not limited to adding or removing tracks; changing the width of the roadway; installing or removing protective devices; creating an additional travel lane; changing the direction of traffic flow; installing curbs, sidewalks, or bicycle facilities; or changing grade, including super elevation, if sufficient to necessitate a change of the grade of the railroad or highway being crossed.
- (2) "AASHTO" means the American Association of State Highway and Transportation Officials, 2001, A Policy on Geometric Design of Highways and Streets, Fourth Edition.
- (3) "Bicycle facilities" are defined in Section 1A.13 of the Manual on Uniform Traffic Control Devices (MUTCD), see section 13 below.
- (4) "Bicycle lane" has the meaning given in Section 1A.13 of the MUTCD.
- (5) "Crossing" means the area affecting or affected by the intersection of a highway with a track or tracks of a railroad or a rail fixed guideway system.
- (6) "Curb" means standard curb as per Oregon Standard Drawing No. RD700.

(7) “Grade crossing” means a highway-rail grade crossing as defined in Section 1A.13 of the MUTCD.

(8) “Guardrail” means a device as depicted in Oregon Standard Drawing No. RD445.

(9) “Highway” has the meaning given that term in ORS 824.200(2).

(10) “Illumination” means a system of luminaires arranged in a unique pattern (see Figure 4) to provide direct lighting on the side of railroad equipment occupying a grade crossing during hours of darkness.

(11) “Interconnection” is as defined in Section 1A.13 of the MUTCD.

(a) “Preemption” is as defined in Section 1A.13 of the MUTCD. See also Section 4D.27 of the MUTCD.

(b) “Advance Preemption” is as defined in 1A.13 of the MUTCD.

(c) “Simultaneous Preemption” is as defined in Section 1A.13 of the MUTCD.

(12) “Maintenance” includes but is not limited to the repair, replacement, alignment, cleaning of protective devices and other actions necessary to assure the proper warning is conveyed to users of the crossing. It also includes the required power to properly activate and operate the protective devices. Minor changes resulting from the maintenance of surface, grade, and alignment, or the replacement in kind of existing signs and signals are not alterations. See OAR 741-120-0020 regarding maintenance of grade crossing surfaces.

(13) “MUTCD” means the Manual on Uniform Traffic Control Devices as adopted by OAR 734-020-0005.

(14) “Pathway” is defined in Section 1A.13 of the MUTCD.

(15) “Public authority” has the meaning given to the term “public authority in interest” in ORS 824.200(7).

(16) “Rail fixed guideway system” means any light, heavy or rapid rail system, monorail, inclined plane, funicular, trolley or automated guideway used primarily for carrying passengers.

(17) “Railroad” has the meaning given that term in ORS 824.020(2) and 824.200(7).

(18) “Roadway” has the meaning given in Section 1A.13 of the MUTCD.

(19) “Safe Stopping Distance” (SSD) means the design stopping sight distance as set forth in AASHTO 2001, Exhibit 3-1 (see Table 1).

(20) “Separated crossing” means a crossing where the highway and railroad are not at common grade. There are two types of separated crossings:

(a) “Overcrossing” means the highway is above the railroad.

(b) "Undercrossing" means the railroad is above the highway.

(21) "Shoulder" means that portion of the roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use, and lateral support of sub-base, base, and surface courses.

(22) "Sidewalk" is as defined in Section 1A.13 of the MUTCD.

(23) "Sight Distance" means the distance from the highway-rail grade crossing, measured along the railroad, that a train must become visible to a motorist who is at the SSD.

(24) "Standard Protective Devices" means the traffic control devices listed in the MUTCD, and the Active, Passive, Auxiliary and Advance Warning devices listed in Sections (2), (3), (4), (5), (6), and (7) of OAR 741 110 0030.

[Publications: Publications referenced are available from the agency.]

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

[741-100-0030](#)

Adoption of Tables and Figures Related to Railroad-Highway Crossings

For the purposes of OAR chapter 741, division 100 through division 200, Tables 1 and 2 and Figures 1 through 5 are hereby adopted and made a part of these rules.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

[741-100-0040](#)

Display of U.S. DOT Inventory Number

The U.S. DOT crossing number shall be displayed at all public highway-rail crossings.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

Division 110

Protective Devices at Crossings

741-110-0010

Purpose and Scope of Rules

OAR 741-110-0020 through 741-110-0090 and 741-115-0010 through 741-115-0080 provide uniform standards for the location and type of protective devices to be installed and maintained at grade crossings.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-110-0020

Application of Rules to Existing Protective Devices

(1) Protective devices installed on or after the effective date of these rules shall comply with these rules.

(2) Except as required by OAR 741-110-0050(2), protective devices installed at grade crossings are deemed to be in compliance with the rules and regulations of the Department, if the installations were performed in accordance with the rules in effect at the time of their installation.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-110-0030

Standard Protective Devices

(1) The devices listed in the MUTCD and the devices listed in Sections (2), (3), (4), (5), (6), and (7) of this rule are “standard protective devices.”

(2) Passive Devices:

(a) Railroad STOP Sign Figure 1 is a fixed rectangular sign that shall bear the word “STOP” in white reflective letters on red reflective material.

(b) Stop Clearance Line is a stop line as defined in Section 1A.13 of the MUTCD, which is 24 inches wide.

(c) “Illumination” (Figure 4) is a system of luminaires arranged in a unique pattern to provide direct lighting on the side of railroad equipment occupying a grade crossing during hours of darkness.

(3) Active Devices at Grade Crossings:

(a) Flashing-Light Signal is as set forth in Section 8C.02 of the MUTCD, which has an audible warning device. For additional specifications for Flashing-light signals, refer to subsections (e) and (f) of this section.

(b) Cantilevered Flashing-Light Signal is as set forth in Section 8C.02 of the MUTCD, which has an audible warning device. For additional specifications on cantilevered Flashing-light signals, refer to subsections (e) and (f) of this section.

(c) Pedestrian Flashing-Light Signal is as set forth in Section 8D.06 of the MUTCD. For additional specifications on Pedestrian Flashing-light signals, refer to subsections (e) and (f) of this section.

(d) Automatic Gate is as set forth in Section 8C.04 of the MUTCD.

(e) Light units on Flashing-light signals, Cantilevered Flashing-light signals, and Pedestrian Flashing-light signals shall be aligned so that insofar as it is practical to do so, at least one full 12-inch diameter red light shall be visible when viewed from any point on the roadway within the safe stopping distance.

(f) Unless otherwise specified, 12-inch diameter roundels (lenses) on Flashing-light signals, Cantilevered Flashing-light signals, and Pedestrian Flashing-light signals, if incandescent bulbs are used, shall be as follows:

(A) Front light units: roundel rated with a 30-degree horizontal and 15-degree downward spread.

(B) Back light units: roundel rated with a 70-degree horizontal spread.

(C) Cantilevered front and back light units: roundel rated with a 20-degree horizontal and 32-degree downward spread.

(4) Auxiliary Devices. The Department may authorize the installation of auxiliary signs and signals at a crossing. Such devices shall be installed so as not to obscure other crossing signs or signals at the crossing.

(5) Advance Warning Devices:

(a) Train-Activated Advance Warning Device (Figure 3) is a signal that shall alternately flash two yellow lights along the highway in advance of a crossing, to provide warning of an approaching train.

(b) Skewed Angle Bicycle Warning sign is the skewed crossing (W10-12) sign in Section 8B.25 of the MUTCD. If used at pathway-rail grade crossings, the sign size depicted in Table 9B-1 of the MUTCD for a shared-use path shall be used.

(6) Guardrail is as depicted in Oregon Standard Drawing No. RD445.

(7) Curb is a standard curb as depicted in Oregon Standard Drawing No. RD700.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-110-0040

Location of Protective Devices

- (1) Standard Protective Devices shall be located as set forth in Part 8 of the MUTCD.
- (2) Railroad STOP signs (Figure 1) shall be located adjacent to the track on which the stopping requirement applies not closer than six feet nor further than 25 feet from the nearest edge of the roadway.
- (3) The stop clearance line described in OAR 741-110-0030(2)(b) shall be located in accordance with the MUTCD as adopted by OAR 734-020-0005.
- (4) Grade Crossing Advance warning signs and grade crossing pavement markings shall be located in accordance with the MUTCD as adopted by OAR 734-020-0005.
- (5) STOP AHEAD (W3-1 or W3-1a) signs, YIELD AHEAD (W3-2 or W3-2a) signs and train-activated advance warning signals shall be located not less than 100 feet in advance of the advance warning sign. See Figure 3.
- (6) Guardrails shall be located so that the face of the guardrail, at a point perpendicular to the roadway centerline, shall coincide with the outside edge of the roadway. No part of the guardrail shall be closer than 10 feet from the centerline of the nearest track.
- (7) Curb shall be located on the outside edge of the roadway. Curb shall commence not less than 10 feet from centerline of nearest track and must extend 50 feet in advance of the automatic protective device.
- (8) Illumination Devices. The system of luminaires shall be located at the grade crossing, as determined by field conditions, to light the side of the train during hours of darkness. See Figure 4.
- (9) Overhead Mounting of Signs and Signals. At the option of the public authority, or by Order of the Department, authorized signs and signals may be installed directly over a lane of traffic on the roadway.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-110-0050

Authority Required for Installation, Removal or Change of Protective Devices/Exceptions

No protective device shall be installed, removed or substituted for any other device, without prior authorization by Order of the Department, except:

- (1) Additional flashing light units may be installed on existing installations of Flashing-light signals and Cantilevered Flashing-light signals by the railroad.
- (2) Worn out or destroyed protective devices may be replaced by a similar device; however, the replacement shall comply with the MUTCD as adopted by OAR 734-020-0005.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-110-0060

Required Installation of Specified Protective Devices

Unless otherwise ordered by the Department, the following protective devices shall be installed at the grade crossings described below.

- (1) One railroad STOP sign shall be installed, where physical circumstances permit, on each track approach to each crossing equipped with Flashing-light signals, Cantilevered Flashing-light signals, Pedestrian Flashing-light signals, and automatic gates when the minimum signal activation requirement of OAR 741 110-0070(1) cannot be met.
- (2) Two Number of Tracks (R15-2P) plaques shall be installed at each grade crossing consisting of two or more tracks.
- (3) Stop Clearance Lines. One stop clearance line shall be installed on each paved roadway approach lane at each grade crossing.
- (4) Grade Crossing Advance Warning Signs. Appropriate grade crossing advance warning signs shall be installed on each roadway approach to each grade crossing.
- (5) Grade Crossing Pavement Markings. Grade crossing pavement markings shall be installed on each paved vehicle approach lane to each grade crossing.
- (6) Guardrail or Curb. Guardrail or curb, as appropriate, shall be installed at each crossing equipped with active protective devices.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-110-0070

Operation of Active Devices

- (1) Activation of Devices. Unless otherwise ordered by the Department, Flashing-light signals, Cantilevered Flashing-light signals, Pedestrian Flashing-light signals, and automatic gates shall be activated by approaching trains through control circuitry in such a manner as will provide a warning through continuous signal operation for a period of not less than 20 seconds nor more than 40 seconds before the arrival of a train traveling at the highest speed permissible over that particular track. Prolonged signal operation shall be avoided by reasonable operating and engineering practices.
- (2) Cessation of Operation. The warning aspect of Flashing-light signals, Cantilevered Flashing-light signals, Pedestrian Flashing-light signals, and automatic gates shall cease operation immediately after the passage of the train over the roadway unless approach circuits on adjacent tracks are occupied by an oncoming train.
- (3) Advance Preemption or other appropriate methods shall be used to provide a pedestrian clear-out interval (PCOI) before the vehicle clear-out interval (VCOI).
 - (a) When a VCOI is required, the indication for the track clearance phases shall be GREEN.

(b) The road authority may submit an engineering study to the State Traffic Engineer to request a deviation from the standards. The State Traffic Engineer, together with the ODOT Rail and Public Transit Division, Crossing Safety Section Manager, may authorize a signalized intersection operation consistent with the findings of the study.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

[741-110-0080](#)

Observance of Railroad Stop Signs

When Railroad STOP signs are installed, traffic on the railroad shall stop prior to entering the roadway and proceed when safe to do so, but not before automatic gate arms have fully lowered, or (in the case of a highway-rail grade crossing not equipped with automatic gates) not before active protective devices, if any, at the crossing have been fully activated for a period of not less than 20 seconds.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

[741-110-0090](#)

Maintenance and Replacement of Protective Devices

Protective devices installed at grade crossings shall be maintained in satisfactory condition, location and in proper alignment. Signs shall be legible at all times. Signal lenses shall be visible as required in OAR 741 110 0030(3)(e). After notification of damage, destruction, failure or malfunction of a protective device, the party responsible for its maintenance shall promptly replace or repair the device, and adequately protect the crossing in the interim.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

Division 115

Allocation of Monies to Defray Costs of Maintaining Active Protective Devices at Railroad – Highway Crossings

741-115-0010

Definitions

(1) Signal Maintenance Units (SMU) are defined in the American Railway Engineering and Maintenance of Way Association Communication and Signals Manual (2000 Edition).

(2) “Active Protective Devices” mean any devices described in OAR 741-110-0030(3) or vehicle traffic signals.

(3) “Eligible Railroad” means a railroad as defined in ORS 824.020, which bears the costs of maintaining one or more active protective devices at highway-rail grade crossings and which is entitled, under ORS 824.018, to partial reimbursement for those costs. Public transit districts are not eligible for such reimbursement.

[Publications: Publications referenced are available from the agency.]

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0020

Procedure for Allocation of Monies

(1) Apportionment Factors to allocate funds from the Grade Crossing Protection Account to defray the costs of maintaining active protective devices at highway-rail grade crossings, pursuant to ORS 824.018, shall be apportioned based on SMU units. The calculation for reimbursement to each eligible railroad shall be apportioned based upon total SMU units maintained by the railroad divided by the total SMU units reported for all railroads that maintain active protective devices at highway-rail grade crossings in the state.

(2) Reimbursement Procedure. On or before January 31 of each year, the Department shall determine the unit counts, as defined in section (1) of this rule, at highway-rail grade crossings equipped with active protective devices. The Department shall, based on those units, apportion funds from the Grade Crossing Protection Account to partially reimburse eligible railroads for expenses incurred in the preceding year to maintain the devices at those crossings. The amount distributed shall equal \$100,000.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0030

Responsibility for Installation and Maintenance of Protective Devices

Unless otherwise ordered by the Department, or unless the parties agree otherwise, the party responsible for the installation and maintenance of protective devices at a grade crossing is as set forth in Table 2. At grade crossings with interconnected vehicle traffic signals, the responsibilities are shared between the railroad and the public authority. The railroad shall

install and maintain the circuitry located on the track and its connection to the outside of the railroad signal case. The railroad shall provide appropriate electrical contacts to the public authority. The railroad shall install and maintain “DO NOT STOP ON TRACKS” (R8-8) signs on Cantilevered Flashing light signals pursuant to OAR 741-110-0040(9). The public authority shall install and maintain all other signs, signals and circuitry connected to the outside of the railroad signal case to assure proper operation of the subject device.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0040

Special Requirements for Traffic Signal Preemption Control

(1) Each public authority with responsibility for maintaining a vehicle traffic signal system interconnected with active protective devices at an adjacent grade crossing shall:

(a) Install the notice, provided by the Department, in the traffic signal cabinet.

(b) Install a “DO NOT STOP ON TRACKS” (R8-8) sign (see Figure 2) capable of holding three flags.

(c) When the railroad preemption feature fails and cannot be repaired within 30 minutes, install flags on the “DO NOT STOP ON TRACKS” (R8-8) signs (see Figure 2) and/or provide manual flag protection alerting motorists of the potential hazard.

(d) Remove the flags required in subsection (c) of this section upon completion of repairs to the railroad preemption feature.

(2) Upon notification of failure of the railroad preemption feature at a crossing equipped with an interconnected vehicle traffic signal system, the railroad shall immediately issue appropriate instructions to all train and switch crews operating over the crossing to be alert for trapped vehicles when approaching the crossing.

(3) The appropriate public authority will provide the Department with a report within 15 days of any signal interconnection malfunction reported to the railroad dispatcher.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0050

Experimental Devices

The Department anticipates new active or passive devices may become available as technology advances. Such devices should be field tested on a limited basis and evaluated statistically to determine their effectiveness. As such devices may be of mutual interest and responsibility, such tests may be made jointly by the Department or railroad or the public authority in interest.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0060

Stop Signs at Private Crossings

(1) Unless otherwise ordered by the Department under ORS 824.224, the railroad shall cause to be installed one vehicle stop sign (24-inch minimum) on each side of any private or farm crossing at grade that is not equipped with automatic protective devices.

(2) The railroad shall also cause to be installed an auxiliary sign identifying the crossing as a private crossing by stating the words "PRIVATE CROSSING" in letters at least two inches high. The color of the sign shall be black letters on a white background (see Figure 5). Optional information such as the words "NO TRESPASSING," the name of the railroad from which permission must be secured for use of the crossing and permit number may be included on the auxiliary sign.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0070

Bicycle Lane and Multi-use Path Construction

(1) Bicycle facilities shall intersect railroad tracks as close to 90 degrees as possible.

(2) Pathway grade crossings or bicycle lanes that have angles of intersection with railroad tracks of 60 to 74 degrees shall have a skewed crossing (W10-12) sign posted on each approach to the crossing.

(3) Pathway grade crossings or bicycle lanes that have angles of intersection with railroad tracks of 59 degrees or less shall require an engineering study.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-115-0080

Vegetation Control at Grade Crossings

(1) The railroad shall control vegetation on its right-of-way for a distance of 250 feet in each direction from the edge of the crossing surface and for a distance of 50 feet in each direction from the centerline of the nearest track or to the edge of the railroad's right-of-way, whichever is less, so that the vegetation does not obstruct motorists' view of approaching trains.

(2) The public authority shall control vegetation on its right-of-way within the SSD and within its right-of-way.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

Division 120

Maintenance, Construction and Closure of Crossings

741-120-0010

Responsibility for Maintenance of Grade Crossings

- (1) Unless otherwise ordered by the Department, or unless the parties agree otherwise, the railroad is responsible for maintaining that portion of the crossing lying between lines drawn perpendicular to the end of ties of each track at the crossing.
- (2) The public authority is responsible for maintaining the remaining portion of the highway at the crossing.
- (3) Additional construction and maintenance costs necessary to comply with OAR 741-120-0020 resulting from a change in elevation of the railroad tracks or a change in elevation of the roadway at the crossing shall be borne by the party initiating the change.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-120-0020

Grade Crossing Construction and Maintenance

- (1) At all new or altered grade crossings used by motor vehicles, bicycles, or pedestrians, the roadway or multi-use path shall be constructed to conform to or exceed nationally recognized and commonly used construction standards.
- (2) The width of the crossing surface, including sidewalks, at the crossing shall be not less than the width of the roadway, and sidewalk, approaches to the crossing.
- (3) Unless authorized in writing by the Department, the surface of the roadway shall be in the same plane as the top of rails for a distance of at least two feet outside the rails, and not more than three inches higher nor three inches lower than the top of the nearest rail at a point thirty feet from the rail, measured at right angles thereto.
- (4) The surface of each grade crossing shall conform to the plane of the top of the rails and be constructed and maintained in a reasonably smooth condition.
- (5) The railroad shall notify the public authority at least four weeks in advance of the date it intends to raise or lower the elevation of one or more tracks at the crossing.
- (6) The public authority shall notify the railroad at least four weeks in advance of the date it intends to raise or lower the elevation of its roadway on the roadway approach to the crossing. See Section 8A.08 of the MUTCD.
- (7) Upon notification by the Department of a condition that does not conform to the requirements of sections (1) through (5) of this rule, the railroad or the public authority, within 30 days of such notification, unless any party requests a hearing, shall bring its portion of the crossing into

compliance with the provisions of this rule, unless a time extension is granted in writing by the Department. See OAR 741-120-0010.

(8) The construction of new driveways within 100 feet of any railroad track at existing grade crossings requires an application for authority to alter a grade crossing under ORS 824.206, except for railroad right-of-way roads.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-120-0025

Sidewalk Construction and Maintenance

(1) All new or altered sidewalks at grade crossings shall be constructed to meet minimum standards, but shall be not less than five feet in width.

(2) The surface of a sidewalk shall conform to the plane of the top of the rails, and be constructed and maintained in a reasonably smooth condition.

(3) At crossings equipped with automatic protective devices, sidewalks shall be directed behind the devices at a distance of not less than five feet, as measured from the centerline of the signal mast to the nearest edge of the sidewalk.

(4) Upon written notification by the Department of a condition that does not conform to the requirements of sections (2) through (3) of this rule, the railroad or public authority shall bring its portion of the sidewalk at a grade crossing into compliance with the provisions of this rule, unless a time extension is granted in writing by the Department. The work shall be commenced within 30 days of such notification, unless any party requests a hearing.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-120-0030

Separated Crossing Construction and Maintenance

(1) All new or altered separated crossing structures shall be constructed to conform to or exceed nationally recognized and commonly used construction standards.

(2) Separated crossing structures, including the roadway surface, shall be maintained in good and safe condition.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-120-0040

Authority for Closure of Crossings and Removal of Tracks at Crossings

(1) Permanent Closure of Roadway at Crossings. Whenever a crossing is permanently closed to the traveling public, the public authority at the crossing shall notify the Department of the closure and comply with OAR 741-120-0050. After such closure has been accomplished, the roadway cannot be reopened without the authority of the Department pursuant to ORS 824.204 or 824.210.

(2) Temporary Closure of Roadway at Crossings by the Railroad. When a railroad desires to close a highway-rail crossing temporarily, it shall provide to the public authority at least four weeks advance notification of its intent to close the crossing. The railroad may provide the road authority less than four weeks advance notice of its intent to temporarily close the grade crossing, if the temporary closure is needed for emergency circumstances. See Section 8A.08 of the MUTCD.

(3) Discontinuance of Railroad Operations at Crossings. Whenever railroad use of a crossing is to be discontinued in accordance with federal requirements, the owner of the track at the crossing and the railroad operating over such track shall notify the Department of the discontinuance.

(4) Removal of Trackage at Crossings. Whenever one or more tracks are to be removed at a grade crossing, the railroad operating over such trackage shall file an application to alter the crossing under ORS 824.206.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-120-0050

Permanent Closure and Removal of Grade Crossings

(1) Construction of Barricades. Whenever a grade crossing is closed to use by the travelling public, a barricade or other appropriate obstruction sufficient to prevent use of the crossing by the travelling public shall be installed and maintained in good condition on each roadway or pathway approach to the crossing. Barricade width shall be a minimum of the width of the roadway, sidewalks and shoulders. Barricades shall be installed and maintained by the public authority. The cost of construction shall be borne by the railroad; maintenance cost shall be borne by the public authority.

(2) Removal of Crossing Surface. Whenever a grade crossing is closed to use by the travelling public, the railroad, after installation of required barricades, shall promptly remove all roadway surface and sidewalk material from the area between lines drawn perpendicular to the end of ties of each track at the crossing.

(3) Removal of Railroad Tracks. Whenever a grade crossing, or one or more tracks is closed to use by railroad equipment, the tracks (including rails and ties) shall be removed and the roadway surface and sidewalks restored by the railroad within twelve months from the time the track is closed to use by railroad equipment.

(4) Removal of Protective Devices. Whenever a grade crossing is closed to use by the travelling public or by railroad equipment, protective devices shall be promptly removed by the party responsible for their maintenance as specified in the crossing Order or Table 2 of these rules.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

Division 125

Crossing Blockage, Whistles and Setback

741-125-0030

Railroad Equipment Set Back from Railroad-Highway Grade Crossings

(1) Except as provided in section (2) or (3) of this rule, no railroad shall cause any rail cars, locomotives or other railroad equipment to be stopped, stored or left standing within 250 feet of a public highway-rail grade crossing where there is an adjacent track.

(2) The setback limitation set forth in section (1) of this rule does not apply when:

(a) The crossing is equipped with active warning devices;

(b) The train is stopped by an emergency condition not under the control of the railroad; or

(c) A railroad employee is physically at the crossing and providing flagging protection for the crossing.

(3) The Department, after hearing, unless not required by ORS 824.214, may grant a reasonable and necessary variance from the limitation set forth in section (1) of this rule upon proper application by a person, railroad or public authority in interest.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

Division 200 Applications

741-200-0010

Purpose

To provide procedures to apply for authority to construct, relocate, alter or close crossing.

Statutory/Other Authority: ORS 823 & 824

741-200-0020

Applications Required

Except where formal proceedings are initiated by the Rail and Public Transit Division of the Department and except as provided in OAR 741-110-0050 and 741-120-0040, an application for authority must be filed with the Department to:

- (1) Construct, relocate or alter a sidewalk, multi-use path or roadway across one or more railroad tracks at grade;
- (2) Construct or relocate one or more railroad tracks across a sidewalk, multi-use path or roadway at grade; or
- (3) Construct, relocate or alter a separated crossing of a sidewalk, multi-use path or roadway.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-200-0030

Persons Who May Make Application

Pursuant to ORS Chapter 824, only a railroad company or the public authority in interest may file an application for authority to construct, relocate, alter or close a crossing.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-200-0040

Form of Applications

- (1) Applications shall be filed on forms approved by the Department.
- (2) An original application and attachments must be filed with the Rail Division of the Department.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-200-0050

Information to Accompany Application

Unless exceptions have been authorized pursuant to OAR 741-200-0060, each application shall be accompanied by an engineered plan (drawing). The plan shall include:

(1) A vicinity map, drawn to scale, showing in detail the vicinity of the crossing, project site and surrounding area road grid. The map shall show:

(a) The angle of intersection of the centerlines of railroad and roadway. In cases where such intersection is on a curved section of roadway or railroad, the angle of intersection shall be the angle formed by a tangent to the curve or curves at the point of intersection;

(b) The right-of-way lines of the roadway and the railroad;

(c) The location of all public and private crossings within the limits of the map;

(d) The location of all structures or other obstructions to vision that are between approaching vehicles and trains;

(e) The location of all signs and signals that govern the flow of rail or roadway traffic within the safe stopping distance and the location of all railroad signs and signals within the grade crossing approach circuit; and

(f) Maximum distance of unobstructed view along the tracks, indicated by sight lines drawn from:

(A) Points on the roadway 18 feet on each side of the centerline of the nearest track; and

(B) Points on the roadway at the distance from the centerline of the nearest track in accordance with the table of safe stopping distances.

(2) Drawings for Active Protective Devices. When active protective devices are to be installed or altered, a drawing (scale of 1 inch = 20 feet is recommended) shall be provided showing the location of proposed signal foundations in relation to distances from centerlines of highway and nearest railroad track. This drawing shall also show the proposed position of other related structures and devices such as guardrails, shoulders of roadway, curbs of roadway and part-time turn restriction signals.

(3) Vehicle Traffic Signal Plan (if applicable) with Operation Description.

(4) Roadway Profile. A profile showing, to scale, the grade of the roadway within the safe stopping distance on each side of the crossing.

(5) Railroad Profile. A profile showing the track profile within 250 feet of the crossing.

(6) Drawings for Separated Crossings. All applications to construct or alter separated structures shall include engineered drawings showing the vertical and horizontal clearances above and adjacent to the railroad tracks that will exist upon completion. Such clearances shall not be less

than those prescribed in CFR 646.212(a)(3) as stated in the Appendix to Subpart B of Part 646—Horizontal and Vertical Clearance Provisions for Overpass and Underpass Structures.

(7) Drawings for Undercrossings. All applications to construct or alter undercrossings shall include engineered drawings showing the clearances beneath the structure that will be provided for roadway use. Minimum clearances shall comply with AASHTO.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

741-200-0060

Application Alternative

Upon approval of Rail and Public Transit Division management staff, certain requirements of OAR 741-200-0050 may be waived.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

Statutes/Other Implemented: ORS 824.202

741-200-0065

Submittal Process

Application and application materials may be submitted electronically or in hard copy format.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202, 824.220, 84.022 & 84.025

741-200-0080

Assignment of Responsibility for Continuing Costs

Cost responsibility for the maintenance of facilities associated with any project for which an application is filed pursuant to these rules shall be assigned to a railroad or the public authority in interest.

Statutory/Other Authority: ORS 823 & 824

741-200-0090

Expiration of Authority to Construct Crossings

Authority to construct a crossing expires two years from the effective date of the Order granting such authority unless the authorized construction is substantially in progress within that period or within such additional period as may have been provided by Order of the Department.

Statutory/Other Authority: ORS 184.616, 184.619, 823.011, 824.202 & 824.220

TABLE 1 — Safe Stopping Distances (SSD)

The SSD is measured 15 feet from nearest rail.

See OAR 741-100-0020.

Vehicle Approach Speed	Safe Stopping Distance
15 mph	80 feet
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet

Source: Based on an equation from A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation officials, 2001, Fourth Edition, page 112.

TABLE 2 — Maintenance Responsibilities

[OAR 741-115-0030](#)

Standard Protective Device	Party Responsible for Installation and Maintenance	MUTCD Reference	Rule Reference
Advance Warning Pavement Markings	Public Authority	Section 8B.20	
Advance Warning Sign	Public Authority	W10 series signs Section 8B.04	
Automatic gate	Railroad	Section 8D.04	741-110-0030(3)(d)
Cantilevered Flashing-Light Signal	Railroad	Section 8D.03	741-110-0030(3)(b)
Crossbuck Sign	Railroad	Sign R15-1 Section 8B.03	
Crossbuck / STOP Sign Assembly	Railroad		741-110-0030(2)(a) 741-110-0040(10)
Crossbuck / YIELD Sign Assembly	Railroad		741-110-0030(2)(b) 741-110-0040(10)
DO NOT STOP ON TRACKS Sign	Public Authority and Railroad	Sign R8-8 Section 8B.07	
EXEMPT Sign	Public Authority and Railroad	Sign R15-3 Section 8B.04	
Flashing-Light Signal	Railroad	Section 8D.02	741-110-0030(3)(a)
Guardrail	Public Authority		741-110-0030(6) 741-110-0040(7) Oregon Standard Drawing No. RD445
HIGH LEVEL WARNING DEVICE	Public Authority		741-115-0040(1)(b) Figure 3
Illumination	Public Authority and Utility Companies	Section 8C.01	741-110-0030(2)(e) 741-110-0040(9) Figure 7
Multi-use Path Advance Warning Sign	Public Authority	Sign W10-1 (15 inch diameter) Chapter 9B, Table 9B-1	
NO TURN ON RED Sign	Public Authority	Signs R10-11, or 11a Section 8D.07	
Number of Tracks Sign	Railroad	Sign R15-2 Section 8B.03	
Pedestrian Flashing-Light Signal	Railroad		741-110-0030(3)(c) 741-110-0040(2) Figure 2
Railroad STOP Sign	Railroad		741-110-0030(2)(c) 741-110-0040(3) Figure 1

Standard Protective Device	Party Responsible for Installation and Maintenance	MUTCD Reference	Rule Reference
Skewed Angle Bicycle Warning Sign	Public Authority		741-110-0030(5)(b) Figure 9 26
Standard Curb	Public Authority		741-110-0030(7) 741-110-0040(8) Oregon Standard Drawing No. RD700 Figure 6
STOP AHEAD Sign	Public Authority	Sign W3-1 or 1a Section 2C.29	741-110-0040(6)
Stop Clearance Line	Public Authority	Stop Line Section 8B.21	741-110-0040(4)
STOP HERE ON RED Sign	Public Authority	Sign R10-6 Section 2B.40	
Traffic Signal Preemption Control	Public Authority and Railroad	Section 8D.07	741-110-0030(3)(g) 741-115-0040
Train-activated Advance Warning Device	Public Authority and Railroad		741-110-0030(5)(a) 741-110-0040(6) Figure 5
Turn Restriction Devices During Train Preemption	Public Authority and Railroad	Sign R10-11a, 11b or 11c in Section 2B.45 and Section 8B.06	
Vehicle STOP Sign	Public Authority	Sign R1-1 Section 2B.04	
YIELD AHEAD Sign	Public Authority	Sign W3-2 or 2a Section 2C.29	741-110-0030(5)(b) 741-110-0040(6)

Railroad Stop Sign

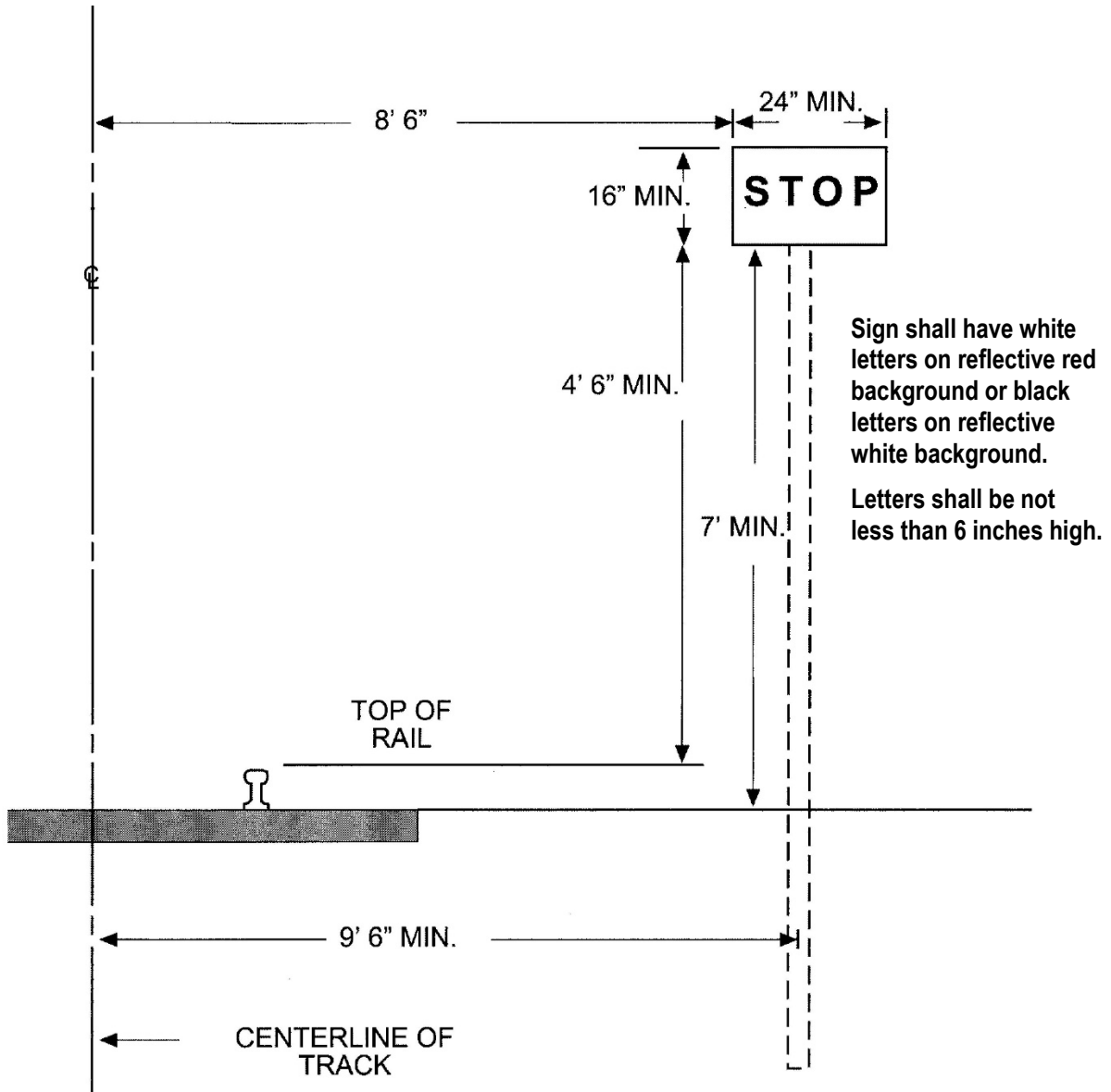
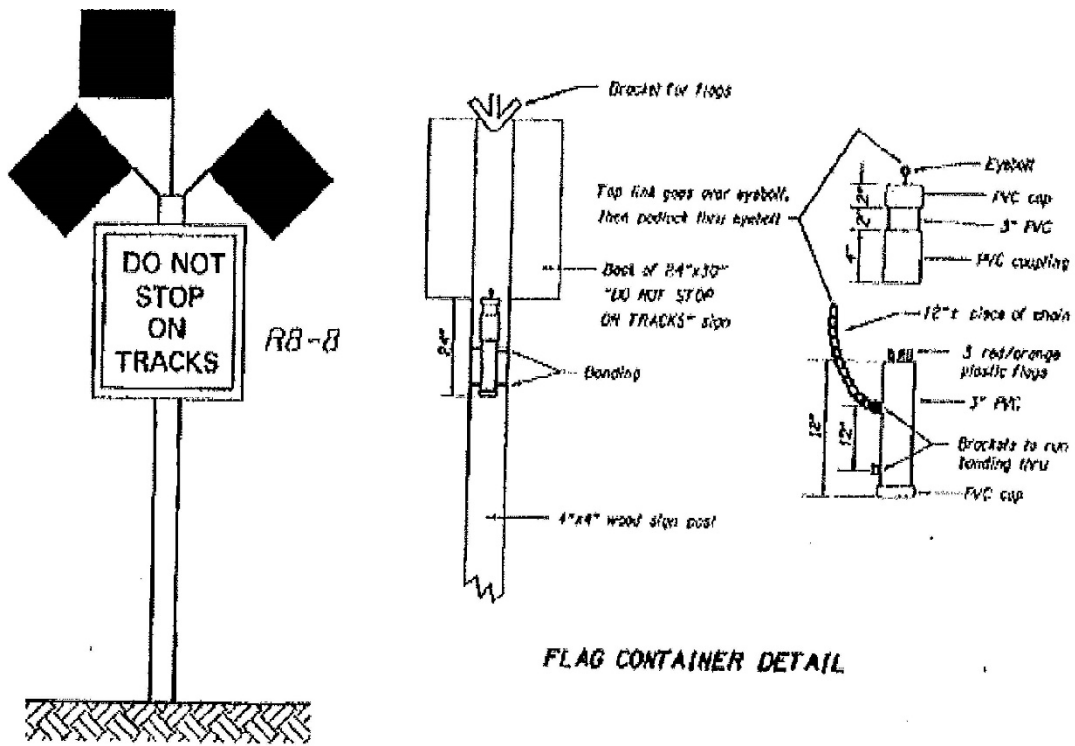


Figure 1 (March 2013)
OAR 741-110-0030(2)(a)
OAR 741-110-0040(2)

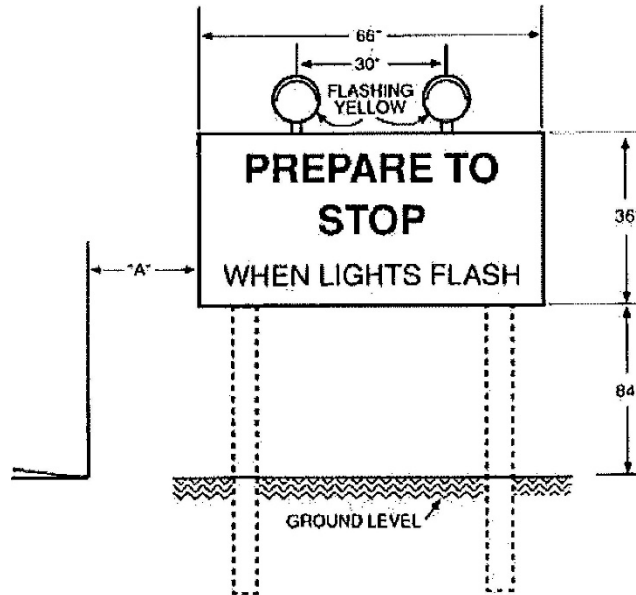
High Level Warning Device



When flags on the DO NOT STOP ON TRACKS sign are displayed pursuant to OAR 741-115-0040, they shall be clearly visible at the crossing until the vehicle traffic signals have been repaired.

Figure 2 (March 2013)
OAR 741-115-0040(1)(b)

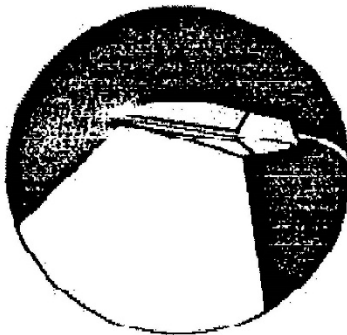
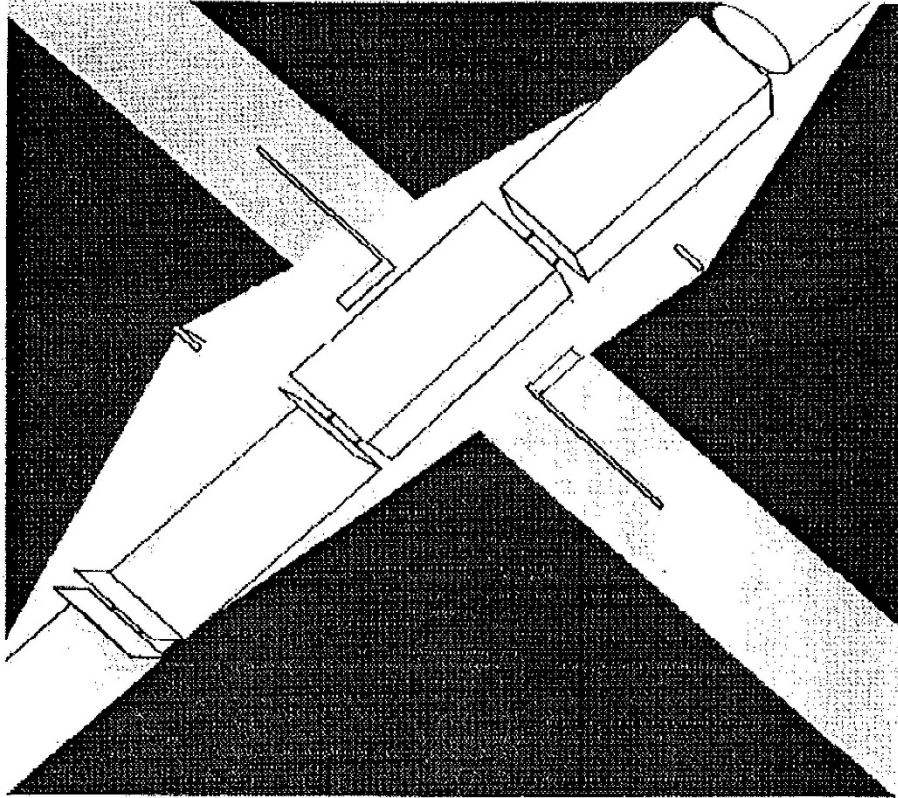
Train-Activated Advance Warning Device



"A" = Not less than 2 feet nor more than 3 feet from curb face or not less than 6 feet nor more than 7 feet from the outer edge of shoulder.

Figure 3 (March 2013)
OAR 741-110-0030(5)(a)
OAR 741-110-0040(5)

Illumination



CUT-OFF LUMINAIRE

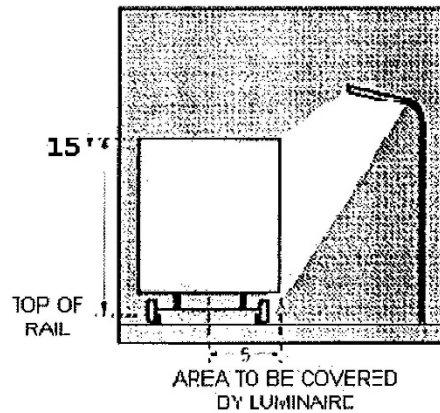


Figure 4 (March 2013)
OAR 741-110-0030(2)(c)
OAR 741-110-0040(8)

Private Crossing stop Sign Detail

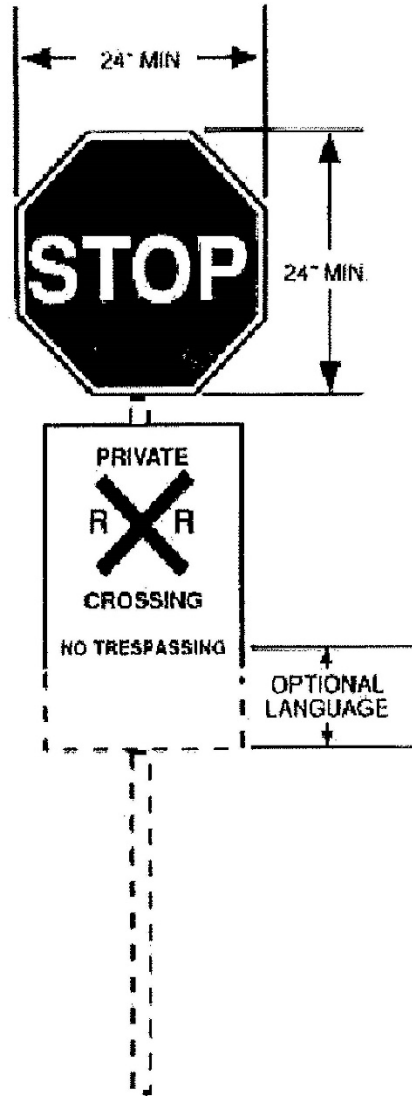
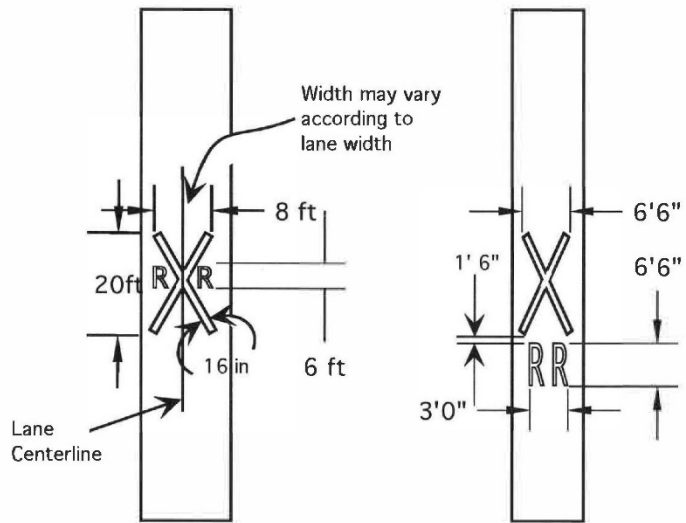
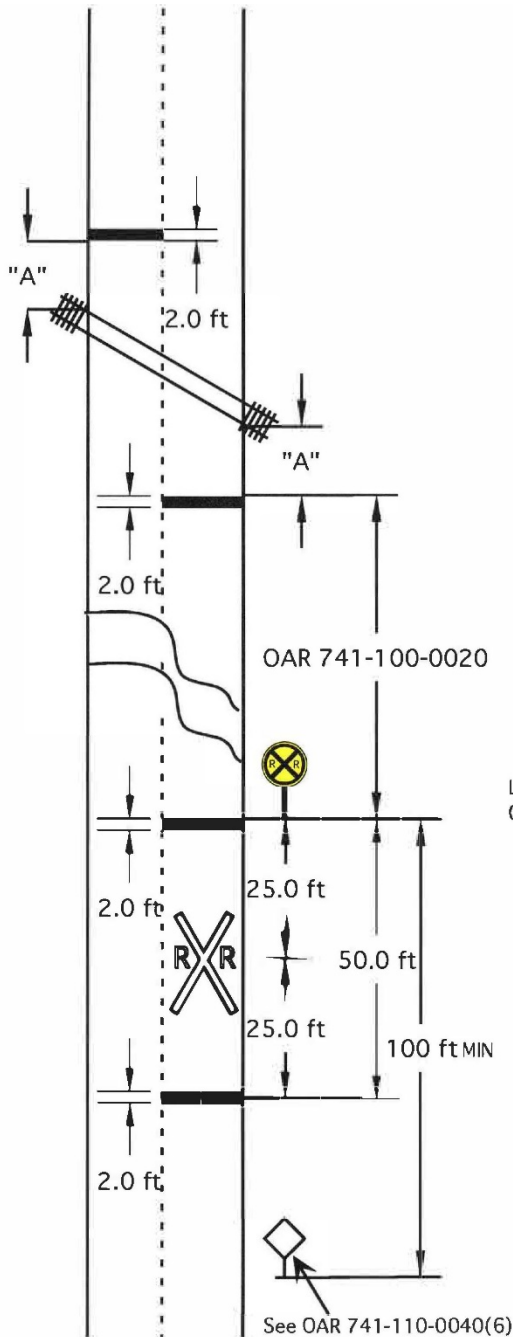


Figure 5 (March 2013)
OAR 741-115-0060(1) (2)

Advance Warning Signs (AWS)



W10
 Advance Warning Sign (AWS) to be installed according to OAR 741-110-0030(5)(a),0040(5)
 See safe stopping distances below



Advance warning pavement markings (AWPM) on multi-lane roads. The transverse lines shall extend across all approach lanes, and each approach lane

Safe stopping distances based on vehicle speed approaching grade crossings

"A" Stop clearance line location is 12ft minimum from the nearest rail or 1ft in advance of the location where an automatic gate arm crosses the roadway

SPEED	15	20	25	30	35	40	45	50	55	60	65
SSD	80'	115'	155'	200'	250'	305'	360'	425'	495'	570'	645'

Footnote: Locations of these devices vary from MUTCD and shall be adhered to in Oregon