

**§ 222.59 When may a wayside horn be used?**

(a) Notwithstanding any provisions in this part to the contrary:

(1) A wayside horn conforming to the requirements of Appendix E of this part may be used in lieu of a locomotive horn at any highway-rail grade crossing equipped with an active warning system consisting of, at a minimum, flashing lights and gates; and

(2) A wayside horn conforming to the requirements of Appendix E of this part may be installed within a quiet zone. For purposes of calculating the length of a quiet zone, the presence of a wayside horn at a highway-grade crossing within a quiet zone shall be considered in the same manner as a grade crossing treated with an SSM. A grade crossing equipped with a wayside horn shall not be considered in calculating the Quiet Zone Risk Index or Crossing Corridor Risk Index.

(b) A public authority installing a wayside horn at a grade crossing within a quiet zone shall identify by both the U.S. DOT National Highway-Rail Grade Crossing Inventory Number and street or highway name the grade crossing equipped with such wayside horn in its notice to railroads and other parties required by § 222.43.

(c) A public authority installing a wayside horn at a grade crossing outside a quiet zone shall provide written notice to the Associate Administrator and to each railroad operating over the grade crossing that a wayside horn is being installed and the date on which the wayside horn will be operational. The grade crossing shall be identified by both the U.S. DOT National Highway-Rail Grade Crossing Inventory Number and street or highway name. The public authority shall provide notification of the operational date at least 21 days in advance.

(d) A railroad operating over a grade crossing equipped with an operational wayside horn installed within a quiet zone pursuant to this section shall cease routine locomotive horn use at the grade crossing. A railroad operating over a grade crossing equipped with an operational wayside horn installed outside of a quiet zone may cease routine locomotive horn use by agreement with the public authority.

**Appendix A to Part 222—Approved Supplementary Safety Measures**

1. *Temporary Closure of a Public Highway-Rail Grade Crossing:* Close the crossing to highway traffic during designated quiet periods.

*Effectiveness:* 1.0.

Because an effective closure system prevents vehicle entrance onto the crossing,

the probability of a collision with a train at the crossing is zero during the period the crossing is closed. Effectiveness would therefore equal 1. However, analysis should take into consideration that traffic would need to be redistributed among adjacent crossings or grade separations for the purpose of estimating risk following the silencing of train horns, unless the particular "closure" was accomplished by a grade separation.

*Required:*

a. The closure system must completely block highway traffic from entering the crossing.

b. The crossing must be closed during the same hours every day.

c. The crossing may only be closed during one period each 24-hours.

d. Barricades and signs used for closure of the roadway shall conform to the standards contained in the MUTCD.

e. Daily activation and deactivation of the system is the responsibility of the public authority responsible for maintenance of the street or highway crossing the railroad. The entity may provide for third party activation and deactivation; however, the public authority shall remain fully responsible for compliance with the requirements of this part.

f. The system must be tamper and vandal resistant to the same extent as other traffic control devices.

*Recommended:*

Signs for alternate highway traffic routes should be erected in accordance with MUTCD and State and local standards and should inform pedestrians and motorists that the streets are closed, the period for which they are closed, and that alternate routes must be used.

2. *Four-Quadrant Gate System:* Install gates at a crossing sufficient to fully block highway traffic from entering the crossing when the gates are lowered, including at least one gate for each direction of traffic on each approach.

*Effectiveness:*

Four-quadrant gates only, no presence detection: .82.

Four-quadrant gates only, with presence detection: .77.

Four-quadrant gates with traffic channelization of at least 60 feet (with or without presence detection): .92.

*Required:*

Four-quadrant gate systems shall conform to the standards for four-quadrant gates contained in the MUTCD, and shall in addition comply with the following:

a. When a train is approaching, all highway approach and exit lanes on both sides of the highway-rail crossing must be spanned by gates, thus denying to the highway user the option of circumventing the conventional approach lane gates by switching into the opposing (oncoming) traffic lane in order to enter the crossing and cross the tracks.

b. Crossing warning systems must be activated by use of constant warning time devices unless existing conditions at the crossing would prevent the proper operation of the constant warning time devices.

c. Crossing warning systems must be equipped with power-out indicators.

**Note:** Requirements b and c apply only to New Quiet Zones. Constant warning time

devices and power-out indicators are not required to be added to existing warning systems in Pre-Rule Quiet Zones. However, if warning systems in Pre-Rule Quiet Zones are upgraded, or new warning systems are installed, constant warning time devices, if reasonably practical, and power-out indicators are required.

d. The gap between the ends of the entrance and exit gates (on the same side of the railroad tracks) when both are in the fully lowered, or down, position must be less than two feet if no median is present. If the highway approach is equipped with a median or a channelization device between the approach and exit lanes, the lowered gates must reach to within one foot of the median or channelization device, measured horizontally across the road from the end of the lowered gate to the median or channelization device or to a point over the edge of the median or channelization device. The gate and the median top or channelization device do not have to be at the same elevation.

e. "Break-away" channelization devices must be frequently monitored to replace broken elements.

*Recommendations for new installations only:*

f. Gate timing should be established by a qualified traffic engineer based on site specific determinations. Such determination should consider the need for and timing of a delay in the descent of the exit gates (following descent of the conventional entrance gates). Factors to be considered may include available storage space between the gates that is outside the fouling limits of the track(s) and the possibility that traffic flows may be interrupted as a result of nearby intersections.

g. A determination should be made as to whether it is necessary to provide vehicle presence detectors (VPDs) to open or keep open the exit gates until all vehicles are clear of the crossing. VPD should be installed on one or both sides of the crossing and/or in the surface between the rails closest to the field. Among the factors that should be considered are the presence of intersecting roadways near the crossing, the priority that the traffic crossing the railroad is given at such intersections, the types of traffic control devices at those intersections, and the presence and timing of traffic signal preemption.

h. Highway approaches on one or both sides of the highway-rail crossing may be provided with medians or channelization devices between the opposing lanes. Medians should be defined by a non-traversable curb or traversable curb, or by reflectorized channelization devices, or by both.

i. Remote monitoring (in addition to power-out indicators, which are required) of the status of these crossing systems is preferable. This is especially important in those areas in which qualified railroad signal department personnel are not readily available.

3. *Gates with Medians or Channelization Devices:* Install medians or channelization devices on both highway approaches to a public highway-rail grade crossing denying to the highway user the option of