

What is a Wayside Horn?

A Wayside Horn (WSH) is a warning device which is mounted facing oncoming traffic at a grade crossing.

The WSH produces an audible warning equivalent to that provided by a train-mounted horn but the sound is highly focused along the roadway approach to the crossing with greatly reduced noise levels in the overall community.

When used, the Wayside Horn provides an approved alternative to the sounding of the locomotive horn by the train operator, **so the train mounted horn will not be sounded under normal conditions.**

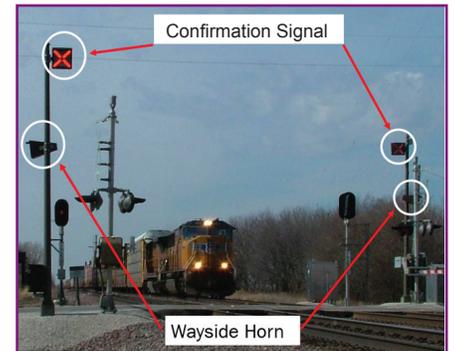


What are the benefits?

The benefit of the Wayside Horn is vastly reduced community “noise pollution” generated from spill-over of the locomotive horn beyond the approach roadway where warning is intended.

What is included in a WSH installation?

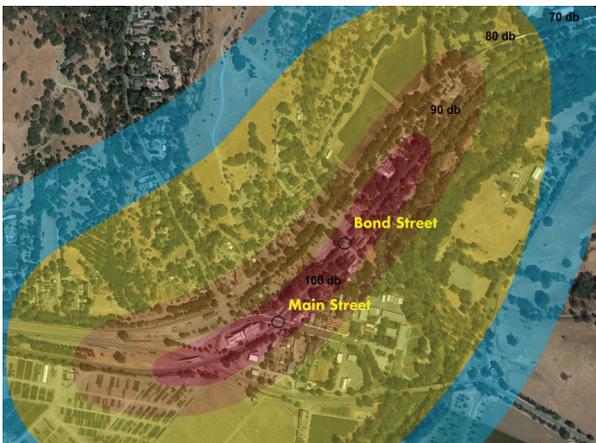
A complete WSH system includes one or more horns which are mounted on a mast adjacent to the grade crossing along with confirmation signals visible to the train crew to confirm that the WSH is working properly and it is not necessary to sound the locomotive horn.



How is a WSH system operated?

The system is activated by railroad track circuitry similar to that used to activate the crossing gates. The warning is sounded until the train reaches the crossing.

Train Horn Noise compared to Wayside Horn Noise



Modeled noise contours for train horn, showing 100 decibel (db) along the railway and 70db - 90db far beyond the grade crossing



Modeled noise contours for wayside horns (right), showing less and more focused noise around the grade crossings

Noise levels



Will the locomotive horns ever be sounded?

In the event the train operator observes a condition at the crossing which may warrant additional warning (e.g., presence of persons and/or vehicles on or near the track; or if a track crew is working in the vicinity) the locomotive horn may be sounded. It is also sounded if the train operator does not observe the “Confirmation Signal” light which is intended to confirm that the WSH system is activated.

What about freight trains?

If the WSH system is deployed, neither passenger nor freight trains will routinely sound locomotive mounted horns.

How is WSH different than a “Quiet Zone”?

A WSH is an alternative to providing a Quiet Zone where horns are not required; a WSH can be deployed with a simpler procedure than establishing a formal Quiet Zone. Although a WSH is not quiet, it can also be used within a Quiet Zone at locations where other suitable Quiet Zone treatment is neither feasible nor desirable. Creation of a Quiet Zone ordinarily requires construction of additional treatments at the crossings such as long medians and four-quadrant gates to prevent vehicles from driving around lowered gate arms. For more information on Quiet Zones, refer to <http://www.fra.dot.gov/Page/P0104>

What about the bells and flashing lights?

Regardless of whether a WSH system is installed, other active devices at the grade crossing such as warning bells and flashing lights will be activated.

What is the process to implement WSH?

Installation of WSH system requires the cooperation of the railroad (Union Pacific), rail operators (ACE), and the local highway jurisdiction (Alameda County). In addition, the California Public Utilities Commission (CPUC) participates in a “field diagnostic” process in which all of the engineered safety features of the grade crossing are

reviewed. Once agreements are in place with the railroad and other parties, and the CPUC has issued a grade crossing improvement permit, construction can begin.

What is the cost of a typical installation?

Wayside horn installations typically cost \$250,000 to \$500,000 per crossing; the cost of the horn and directly related equipment is only a part of the cost. There may be costs involved to update the railroad circuitry and other improvements may be required at the grade crossing to bring all features up to date.

Are there ongoing costs?

Ongoing costs of additional maintenance associated with the devices can amount to \$1500 to \$2500 per crossing per year.



Train Horn Rule

- The Train horn rule (49 CFR Part 222) requires locomotive engineers to sound train horns between 15 and 20 seconds in advance of all public grade crossings
- Train horn sound pattern of 2 long, 1 short and 1 long blasts must be repeated or prolonged until the lead locomotive or cab occupies the grade crossing
- The train horn noise is required to be between 110 and 96 decibels

Si quisiera esta información sobre las mejoras al ACetrain en español, por favor envíe un email a: aceforward@acrail.com.

