



Federal Railroad Administration Locomotive Horn Sounding and Quiet Zone Establishment Fact Sheet

Why Do Locomotives Need to Sound Their Horns?

Since their inception, railroads have sounded locomotive horns or whistles in advance of grade crossings and under other circumstances as a universal safety precaution. During the 20th century, nearly every state in the nation enacted laws requiring railroads to do so. Some states allowed local communities to create “whistle bans” where the train horn was not routinely sounded.

In accordance with a statutory mandate, FRA issued regulations which took effect in 2005 that require locomotive horns be sounded in advance of all public highway-rail crossings, and provide local communities the option of silencing them by establishing quiet zones. Under the Federal regulation, locomotive engineers must sound train horns for a minimum of 15 seconds, and a maximum of 20 seconds, in advance of all public grade crossings, except:

- If a train is traveling faster than 45mph, engineers do not have to sound the horn until it is within $\frac{1}{4}$ mile of the crossing, even if the advance warning is less than 15 seconds.
- If a train stops in close proximity to a crossing, the horn does not have to be sounded when the train begins to move again.
- A “good faith” exception at locations where engineers can’t precisely estimate their arrival at a crossing.

Wherever feasible, train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long and the horn must continue to sound until the lead locomotive or train car occupies the grade crossing. The minimum volume level for locomotive horns is 96 decibels and the maximum volume level is 110 decibels.

Establishing a Quiet Zone

Only local governments or public agencies may establish a quiet zone, which must be at least $\frac{1}{2}$ mile in length, and have at least one public highway-rail grade crossing. Every public grade crossing in a quiet zone must be equipped at minimum with the standard or conventional automatic warning devices (i.e. flashing lights and gates). Communities have the option to establish partial quiet zones restricting locomotive horn sounding during overnight hours between 10:00 P.M. to 7:00 A.M.

Local governments must work in cooperation with the railroad that owns the track, and the appropriate state transportation authority to convene a diagnostic team to assess the risk of collision at each grade crossing where they wish to silence the horn. An objective determination is made about where and what type of additional safety engineering improvements are necessary to effectively reduce the risk associated with silencing the horns based on localized conditions such as highway traffic volumes, train traffic volumes, the accident history and physical characteristics of the crossing, including existing safety measures.

Examples of additional safety engineering improvements that may be necessary to reduce the risk of collisions include: medians on one or both sides of the tracks to prevent a motorist from driving around a lowered gate; a four-quadrant gate system to block all lanes of highway traffic; converting a two-way street into a one-way street; permanent closure of the crossing to highway traffic; or approved variations of these treatments.

As an alternative to quiet zones, communities may also choose to silence locomotive horns through the installation of wayside horns at each crossing (train-activated stationary acoustical devices directed at highway traffic), as a one for one substitute for train horns.

Once all necessary safety engineering improvements are made, the local community must certify to FRA that the required level of risk reduction has been achieved. A quiet zone may only take effect after all necessary safety measures are installed and operational.

Notably, in a quiet zone engineers have no legal duty to sound the horn, but may exercise discretion during emergency situations (i.e. the presence of a vehicle or a person on the track). Under federal regulations, engineers must sound the horn to warn railroad maintenance employees or contractors working on the tracks. If a railroad or individual engineer fails to sound the locomotive horn as required or is unnecessarily sounding the horn in an established quiet zone, they are subject to enforcement action by FRA.

Pre-Rule Quiet Zones In some locations, communities had legacy “whistle bans,” which were established by local ordinance or through agreements with railroads in accordance with state laws, or through informal agreements honored or abided by a railroad. Whistle ban communities were required by law and FRA’s regulations to affirmatively state their intention to preserve them by submitting specific paperwork converting the ban to a “pre-rule quiet zone.” Those that failed to do so lost their special status and railroads resumed routine sounding of horns. Pre-rule quiet zone communities that completed the required paperwork were granted an extended grace period (from 5 to 8 years) to achieve compliance with certain rule requirements.

Additional information can be found at: <http://www.fra.dot.gov/Page/P0104>

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