



RAILROAD PROGRAM OVERVIEW

Including New

QUIET ZONE ESTABLISHMENT

RAILROAD PROGRAM OVERVIEW

The City has developed a Railroad Program to improve railroad crossing safety and to create quiet zones to minimize train horn noise. The Program improves railroad crossings citywide by upgrading crossing equipment, developing quiet zones, and raising public awareness about crossing safety.

The City was granted the authority to create quiet zones at railroad crossings in the Federal Railroad Administration's (FRA) Train Horn Rule design and certification requirements, which became effective June 24, 2005. The City may implement a quiet zone project if a crossing is suitable for adding quiet zone devices and if project funding has been secured.

QUIET ZONE REQUIREMENTS

Train Horn Rule

The Train Horn Rule published by the FRA establishes the conditions under which a train horn must be used and the requirements for quiet zone implementation. Unless a crossing is designated as a quiet zone crossing, federal law requires that train leading locomotives must sound the train horn 15-20 seconds (in the required pattern) during the approach and prior to train's arrival at all public crossings. This means that the train horn must be sounded continuously from about ¼ mile in advance of a crossing until the train reaches the crossing. Even with the establishment of a quiet zone, the train's locomotive engineer/operator has the responsibility to sound the horn for pedestrians, workers, trespassers or wildlife that are encroaching in the railroad corridor.

Quiet Zone Development

The Rule provides procedures that the City can follow to create quiet zones which would prohibit routine train horn use. The City must install Supplemental Safety Measures (SSMs) to compensate for the train horn. With a proper SSM, or quiet zone device, in place the City can issue a certification notice to inform the FRA, the railroad, and others that the crossing is in compliance with the federal standards for a quiet zone. A group of crossings qualifies for quiet zone status if each individual crossing meets requirements. Federal approval is not necessary; however, strict guidelines are established to certify that each crossing is following FRA standards.

The FRA identifies specific methods to implement a quiet zone. The following techniques describe basic methods or devices used to deploy a quiet zone:

Median Barrier. In order to prevent drivers from deliberately driving around lowered railroad gates, a median barrier may be placed along the centerline of a roadway. A median barrier should project at least 100 feet and minimum 6” height (CFW standard is 8” for new construction), in advance of the crossing gate on each side of the tracks. In certain cases, like a driveway is present, the median may be only 60 feet in length. The median barrier is the preferred quiet zone SSM device because it is the least expensive to install and maintain. It typically may be used unless there is an intersecting street or driveway nearby that will not allow sufficient length for a median to be placed.

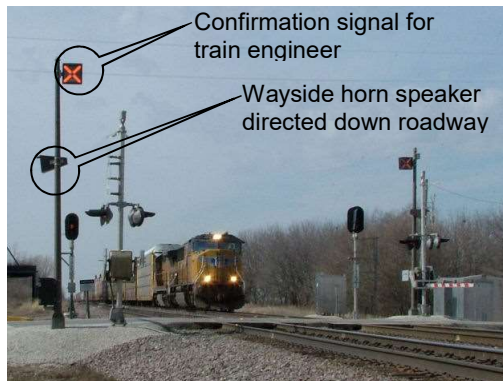
Typical cost range for concrete median: \$80,000-\$100,000.

Typical cost range for channelization: \$15,000-\$20,000



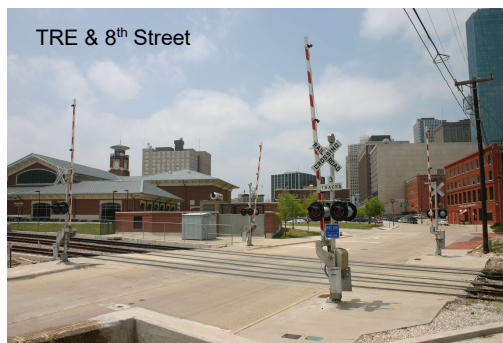
Wayside Horn System. Wayside horns may be used in lieu of the locomotive train horn. This device is a set of roadside mounted speakers that emit a train horn sound only in the vicinity of the crossing and directed toward the roadway. A dramatically smaller portion of the neighborhood hears this horn noise sound. The system includes a confirmation for the train engineer that provides an indication that the wayside horn system is functional.

Typical cost range: \$150,000-\$200,000.



Four-Quadrant Gate System. The use of four sets of gates blocks vehicle passage on the entire roadway and effectively prohibits a motorist from driving around the gate. Typically, all four gates are lowered at the same time; however, as an additional safety feature, if a car is on the tracks the departure gate will raise until the car leaves the track area. Vehicle sensors installed in the roadway at the crossing will automatically keep the gates raised until the car passes by.

Typical cost range: \$500,000-\$600,000.



Street Closure. A street closure eliminates the railroad crossing thereby removing the need for a train horn. If the street is not necessary for local needs or for emergency service vehicle access, and other nearby streets are suitable to provide traffic circulation, then the street can be considered for closure.



Typical cost range \$10,000 to \$200,000. A closure may entail the installation of one barricade on each side of the track. However, some streets will require a cul-de-sac and right-of-way acquisition, which will increase the cost significantly.

For additional information on these methods, refer to the Federal Railroad Administration publication, 49 CFR Parts 222 and 229, Use of Locomotive Horns at Highway Grade Crossings; Final Rule. The Train Horn Rule is available at the FRA’s website at <http://www.fra.dot.gov/>, then search for the “Final Rule” document.

Quiet Zone Design, Certification and Funding

Because each crossing has unique characteristics such as the number of roadway lanes, or the presence of adjacent streets or driveways, the design requirements may dictate the use of one quiet zone method over another. If a crossing has only railroad cross-buck signs, in addition to the quiet zone device, a modern gated railroad signal must be installed. Some existing gated railroad signals may require modernization. In a few cases it may be impractical to create a quiet zone.

Once proper SSMs are in place, a city can issue a certification notice to inform the FRA, the railroad, and others that the crossing is in compliance with the federal standards for a quiet zone.

The City or private groups will normally fund the SSM devices. For some projects, it will also be required to fund necessary upgrades to bring the railroad signal equipment up to modern standards.

- Typical cost ranges are cost estimates for construction only, 2024\$

For additional information about the quiet zones or the City’s Railroad Program, please call Tai Nguyen, Transportation and Public Works Department, 817-392-2359.

TPW – Regional Mobility and Innovation

