

# **RAILROAD PROGRAM OVERVIEW**

## **Including New**

# **QUIET ZONE ESTABLISHMENT**

### **RAILROAD PROGRAM OVERVIEW**

The City is developing a new Railroad Program to improve railroad crossing safety and to create quiet zones to minimize train horn noise. The Program will improve 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 because of the recently approved 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 newly approved 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, federal law requires that train locomotives must sound the horn 15-20 seconds prior to arrival at a crossing. 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.

#### **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 in compliance with 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:

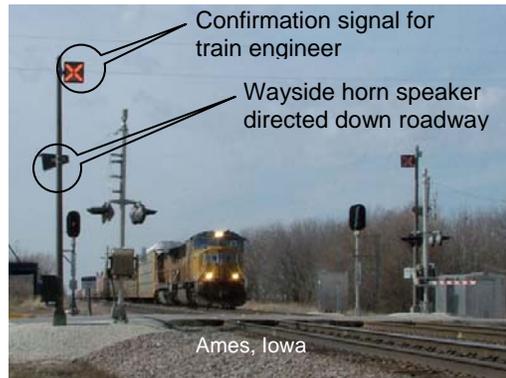
Median Barrier. In order to prevent drivers from deliberately driving around lowered railroad gates, a median barrier may be placed along the centerline of a roadway. A median barrier should project at least 100 feet in advance of the crossing gate on each side of the tracks. In certain cases, the median 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: \$15,000-\$30,000.



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: \$60,000-\$80,000.



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: \$150,000-\$500,000.



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.

## **OVERVIEW - CITY OF FORT WORTH RAILROAD PROGRAM**

The goals of the City's proposed Railroad Program are to update railroad grade crossings, reduce train horn noise, and improve crossing safety. These goals will be accomplished by improving crossing protection devices, deploying quiet zones, and promoting the safe use of railroad grade crossings. The type of applicable projects, design methods, and funding options are described in the following sections:

### **Railroad Crossing Improvements**

Typical projects within the program include the following:

- Crossing Protection Improvements. Railroad crossing protection devices (signing, signals and gates) may be installed as safety improvements.
- Crossing Elimination. Closing unneeded streets at a grade crossing eliminates the railroad crossing.
- Quiet Zone Development. A quiet zone is one or a group of grade crossings in an area that use approved crossing devices or techniques (SSMs) to eliminate the use of train horns, thus improving the environmental (noise) quality in a neighborhood.

### **Railroad Project Funding**

Funding for City of Fort Worth railroad projects may be accomplished with Capital Improvement Project (CIP) funds, federal grant programs, or developer or private contributions. CIP Railroad Program funds and grant programs are intended to support projects initiated by the city. A private entity may initiate a quiet zone project at the City, and

fund the project in its entirety. If a private entity provides complete project funding for installation and maintenance, then the project will be prioritized for installation.

### **Capital Project Ranking and Project Selection**

In order to ensure the best use of public funds, the Railroad Program includes a project ranking and selection process. Candidate projects are rated using a set of project priority rating criteria. Basic steps for a candidate project that meets all requirements in this policy are as follows.

#### 1. Project Evaluation

An evaluation of the crossing(s) will be conducted. Basic design and preliminary costs will be produced. The project will be rated with other crossing projects, and as funds are available, higher rated projects will be recommended.

#### Draft Railroad Program – Project Priority Rating Criteria

A priority rating criteria is used to rank each candidate project. Evaluation criteria for each individual project consist of factors related to the anticipated benefits from a proposed improvement.

- **Project Crossing Exposure** – Based on the amount of trains at the crossing per day.
- **Land Use and Density** – Based on population and the number of schools and hospitals within ½ mile of the crossing.
- **Local Site and Other Considerations** – Based on the impact the project achieves to improve specific crossing problems.
- **Project Cost** – Based on the cost to construct the project and to maintain the facility. Improvements funded by a grant or outside contributions will lower the city's cost to deploy the project.

#### 2. Preliminary Engineering and Community Support

Projects that are recommended from the Project Evaluation stage will be further examined for feasibility. Preliminary engineering will be undertaken with the railroad company and roadway designers to determine the specific design and project cost. Community support for the project may also be requested at this time.

#### 3. Project Authorization

The City Council will authorize projects as necessary. Project agreements and design will be completed, and construction will commence.

For additional information about the quiet zones or the City's Railroad Program, please call Russ Wiles, Transportation and Public Works Department, 817-392-7978 or 817-392-2405.

