

RTSD: Railroad Quiet Zones

<http://lincoln.ne.gov/city/pworks/rtsd/quiet/whatis.htm>

## Railroad Quiet Zone Requirements

This outline is based on the information and requirements for the creation of Quiet Zones as outlined in the Final Rule on the Use of Locomotive Horns at Highway-Rail Grade Crossings, published in the Federal Register of April 27, 2005. The effective date of the Final Rule is **June 24, 2005**.

In the Final Rule the Federal Railroad Administration (FRA) issued regulations that specify when trains must sound a locomotive horn while approaching and entering public crossings, and provides exceptions to that requirement. This enables communities to create Quiet Zones, in which locomotive horns are not routinely sounded at grade crossings, thereby improving the quality of life by permitting the silencing of locomotive horns at grade crossings while still ensuring that safety is maintained at those crossings.

State laws and local ordinances, which govern the sounding of locomotive horns at public highway-rail grade crossings, were preempted by this Rule when it became effective **June 24, 2005**.

A Quiet Zone is a section of a rail line that contains one or more consecutive public crossings at which locomotive horns are not routinely sounded. The FRA rule describes the requirements that communities must meet in order to implement a Quiet Zone.

The public entities that are responsible for the traffic control and law enforcement at public highway-rail grade crossings are the only ones that can designate or apply for a Quiet Zone. Private companies, citizens or neighborhood associations are not able to create a Quiet Zone independent of local authorities.

Although the railroads cannot prohibit the establishment of a Quiet Zone, railroads must play a role in establishing Quiet Zones. Railroad assistance is necessary for installation of Supplementary Safety Measures and providing updated information for the National Grade Crossing Inventory. The FRA expects railroads to continue to cooperate with local and state authorities for the installation of grade crossing safety improvements. Quiet Zones do not impair any authority available under state law for a state agency to order installation of those improvements.

New Quiet Zones must have active grade crossing warning devices, consisting of flashing lights, gates, constant warning circuitry and power off indicators at all public highway-rail grade crossings. Each highway approach to every public and private grade crossing within a new Quiet Zone must have an advance warning sign that advises motorists that train horns are not sounded at the crossing. A minimum Quiet Zone length of at least ½ mile must be provided along the length of railroad right-of-way.

The following **Supplemental Safety Measures (SSMs)** may be used to mitigate the silencing of locomotive horns at railroad at-grade crossings:

1. Permanent or temporary closure (night time closure 10 p.m. to 6 a.m.)
2. Four-quadrant gate systems
3. Gates with medians or channelization devices (traffic separators)
4. Conversion of a two-way street to a one-way street

**Wayside horns** may be used in place of locomotive horns at individual or multiple at-grade crossings, including those within Quiet Zones. The wayside horn is a stationary horn located at a highway-rail grade crossing, designed to provide audible warning to oncoming motorists of the approach of a train. The wayside horn is considered a one-for-one substitute for the train horn. The crossing must be equipped with flashing lights, gates, constant warning circuitry and power off indicators. FHWA has provided interim approval of the wayside horn pursuant to the MUTCD.

**Alternative Safety Measures (ASMs)** may also be proposed to FRA for their consideration and approval. For example, a median barrier that is shorter than the required length would be a modified SSM, and would therefore be considered an ASM. SSMs are recognized measures not requiring further review and approval from FRA. Other ASMs include such things as enhanced education and enforcement programs, commonly referred to as Non-Engineering ASMs. All ASMs, however, must receive written FRA approval prior to the silencing of train horns and are subject to annual review. Public Agencies are advised to consider SSMs and wayside horns for the development of the Quiet Zones along the rail corridors in their communities.

## 2.1 Creating a New Quiet Zone Using SSMs

The following information is provided on the [FRA website under Guidance on the Quiet Zone Creation Process](#). The flow chart developed by the FRA outlining this process has been included labeled [Chart 2](#), for implementing SSMs or installation of wayside horns, which allows the establishment of a Quiet Zone through public authority designation. The guidelines for establishing a Quiet Zone through the implementation of SSMs are as follows:

1. Select the crossings to be included in the New Quiet Zone.
2. A Quiet Zone may include highway-rail grade crossings on a segment of rail line crossing more than one political jurisdiction, or there may be roads within a particular area that are the responsibility of different entities (State or county roads within a town, for example). If the selected crossings are the responsibility of more than one entity, obtain the cooperation of all relevant jurisdictions.
3. A New Quiet Zone must be at least ½ mile in length along the railroad tracks.

4. A New Quiet Zone must have, at a minimum, flashing lights and gates in place at each public crossing. These must be equipped with constant warning time devices where reasonably practical, and power out indicators. Any necessary upgrades must be completed before calculating risk for the Quiet Zone.
5. Are there any private crossings within the proposed Quiet Zone? If any private crossings allow access to the public or provide access to active industrial or commercial sites, the public authority must conduct a diagnostic team review of those crossings. Following the diagnostic review, the public authority must comply with the diagnostic team's recommendations concerning those crossings.
6. Update the USDOT Grade Crossing Inventory Form to reflect conditions at each public and private crossing; this update should be complete, accurate, and dated within 6 months prior to the Quiet Zone implementation.
7. If every public crossing in the proposed Quiet Zone is equipped with one or more SSM, the Quiet Zone can be established through public authority designation by completing the following steps:
  - a. Install required signage at each crossing. (Refer to rule sections 222.25 and 222.35 for details.)
  - b. Update the National Grade Crossing Inventory to reflect current conditions at each public and private crossing within the Quiet Zone.
  - c. Notify the parties listed in the rule of the intent to create a New Quiet Zone. Allow a 60-day comment period (Refer to rule section 222.43 for details.)
  - d. Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 4.5-5 years. (Refer to rule section 222.47 for details.)

A **Diagnostic Team Review** should be conducted at each of the crossings in the proposed Quiet Zones with representatives of the railroad involved, the City, the State Railroad Liaison, the FRA, and the consultant team. The Diagnostic Review notes the appropriate improvements for each crossing to be considered in a Quiet Zone.

Additional Link:

[http://www.fhueng.com/civil%20engineering%20design/Railroad%20Services/quiet\\_zones\\_colorado\\_nebraska.html](http://www.fhueng.com/civil%20engineering%20design/Railroad%20Services/quiet_zones_colorado_nebraska.html) Kyle Anderson with FHU (Felsburg Holt & Ullevig) at 402.445.4405

[kyle.anderson@fhueng.com](mailto:kyle.anderson@fhueng.com) Rick Haden another FHU contact (Lincoln, NE)

## Union Pacific Railroad

### Quiet Zones

[http://www.uprr.com/reus/roadxing/industry/process/horn\\_quiet.shtml](http://www.uprr.com/reus/roadxing/industry/process/horn_quiet.shtml)

## Federal Railroad Administration's Train Horn & Quiet Zone Rule

Operating a safe and efficient railroad is Union Pacific's top priority. Maintaining the safety of our employees, our customers and the general public is at the core of everything we do. For everyone's safety, federal regulation requires locomotive horns be sounded for 15-20 seconds before entering all public grade crossings, but not more than one-quarter mile in advance. This federal requirement preempts any state or local laws regarding the use of train horns at public crossings.

The Federal Railroad Administration (FRA) required pattern for blowing the horn is two long, one short, and one long sounding horn, repeated as necessary until the locomotive clears the crossing. Locomotive engineers retain the authority to vary this pattern as necessary for crossings in close proximity and are allowed to sound the horn in emergency situations.

The federal regulation concerning train horns is officially known as the FRA's Final Rule on the Use of Locomotive Horns at Highway/Rail Grade Crossings and became effective June 24, 2005.

### Quiet Zones

Union Pacific believes quiet zones compromise the safety of railroad employees, customers, and the general public. While the railroad does not endorse quiet zones, it does comply with provisions outlined in the federal law.

Federal regulations provide public authorities the option to maintain and/or establish quiet zones provided certain supplemental or alternative safety measures are in place and the crossing accident rate meets FRA standards. There are six types of quiet zones:

- A **Pre-Rule Quiet Zone (Full or Partial)** is a quiet zone that was established before October 9, 1996, and in place as of December 18, 2003.
- An **Intermediate Quiet Zone** is a quiet zone that was established after October 9, 1996, but before December 18, 2003.
- **New Quiet Zones** are those that do not meet the criteria for Pre-Rule or Intermediate Quiet Zones.
- **Partial Quiet Zones** are quiet zones where the horn is silenced for only a portion of the day, typically between the hours of 10 p.m. and 7 a.m.
- **Full Quiet Zones** are zones where the horn is silenced 24 hours per day.

In line with federal regulations, public authorities wanting to maintain Pre-Rule or Intermediate Quiet Zones were required to submit a Notice of Continuation in accordance with the rule by June 3, 2005. Failure to comply with this requirement will result in the sounding of the train horn beginning Friday, June 24, 2005, and continuing for 21 days from the date the Notice of Continuation is properly filed.

Quiet Zones in the six-county Chicago, Illinois Region (Cook, DuPage, Lake, Kane, McHenry and Will Counties) which were in existence as of December 18, 2003, are currently exempted by the Final Rule.

Public authorities wishing to establish New Quiet Zones must submit Notices of Intent and Establishment in accordance with the rule. Public authorities should refer to the Final Rule for specific guidelines on the quiet zone establishment process. The [Final Rule and FRA explanatory materials](#) can be found on the FRA's Web site.

### **Union Pacific's Involvement in the Quiet Zone Establishment Process**

In order to maintain high public safety standards, it is critical and beneficial to have the perspective gained from the railroad's experience and expertise concerning quiet zones. Union Pacific representatives will participate in diagnostic meetings and provide the necessary railroad information for quiet zone projects on Union Pacific lines, as required in the Final Rule.

The Final Rule outlines two types of safety improvement options for upgrading a quiet zone to meet FRA safety standards:

- Supplemental Safety Measures (SSMs) or
- Alternative Safety Measures (ASMs).

#### **Supplemental Safety Measures include the following:**

- Four-Quadrant Gate Systems
- Medians or Channelization Devices
- One-Way Streets with Gates
- Permanent Closure

#### **Alternative Safety Measures include:**

- Modified SSMs (i.e. Non-Complying Medians, Three-Quadrant Gates, etc.)
- Engineered ASMs (i.e. Geometric Improvements)
- Non-Engineered ASMs (i.e. Programmed Enforcement, Photo Enforcement, Education, etc.)

Union Pacific encourages the use of Engineered SSMs, but suggests that communities postpone taking any costly or irreversible action until it has been determined which additional safety measures are warranted.

## General Costs of Safety Measures

Establishing quiet zones not only creates a public safety risk but also is a potential cost burden to taxpayers. Public authorities are responsible for the cost of preliminary engineering, construction, maintenance and replacement of active warning devices or their components, including wayside horn systems installed at crossings to meet quiet zone standards.

Public authorities are required to execute a [preliminary engineering agreement \(PDF File\)](#) with Union Pacific to reimburse the railroad for all project development and engineering design costs. This agreement requires the following deposits:

- \$ 5,000 per wayside horn location
- \$10,000 per crossing signal location

Public authorities are required to guarantee reimbursement to the railroad for all actual costs associated with the installation and maintenance of the railroad improvements required for the quiet zone by means of a project agreement executed by the parties. This may include quiet zone warning devices, wayside horns or both.

### Examples of costs as estimated by Union Pacific:

- Four-Quadrant Gate Systems - \$300,000 to \$500,000
- Basic Active Warning System\* - \$185,000 to \$400,000  
(\*Includes Flashing Lights and Gates, Constant Warning Time, Power Out Indicator and Cabin.)
- Basic Inter-Connect - \$5,000 to \$15,000
- Annual Maintenance - \$4,000 to \$10,000

Contact Information: Notices of Intent, Notices of Establishment or other general communication related to quiet zones should be sent to:

Union Pacific Railroad  
Engineering Department  
Re: Quiet Zone Establishment  
1400 Douglas Street, STOP 0910  
Omaha, NE 68179-0910

Requests for diagnostic assistance should be directed to Union Pacific's [Industry and Public Projects group](#).

### Union Pacific Project Agreements

- [Preliminary Engineering Agreement \(PDF File\)](#)
- [Wayside Horn System Agreement \(PDF File\)](#)
- [Wayside Horn System Exhibits \(PDF File\)](#) for attachment to Wayside Horn Agreement
- [Quiet Zone Warning Devices Agreement \(PDF File\)](#)

# Funding Quiet Zones

City of Lincoln uses a Railroad Transportation Safety District (RTSD) to fund Lincoln's Quiet Zone initiatives.

The RTSD is a special purpose district authorized by state statutes (74-1301-74-1308) to:

1. reduce the number of fatalities and injuries caused by collisions between motor vehicles and railroad trains;
2. eliminate as far as possible unnecessary conflicts between railroad transportation and highway transportation;
3. improve the movement of both rail and highway traffic by eliminating grade crossings; and
4. assist in relocation of railroad facilities that bisect the central portions of municipalities, thus hampering the growth of both the municipality and the railroad services; the effect of such policies being to benefit and enhance the community as a whole.

The RTSD has the statutory authority to levy a property tax (74-1306) not to exceed 2.6 cents per \$100 in valuation to accomplish this charge.

Schuyler's valuation was \$146,420,547 in 2011.

Levying 2.6 cents is estimated to generate a little over \$38,000 per year.

Depending on the existing grade, Quiet Zones are estimated to cost approximately \$250,000.

City of Schuyler has the authority to issue a special purpose bond for the total project cost and pledge the new property tax for repayment of those bonds.

# Railroad Transportation Safety District

74-1301 to 74-1308

## **74-1301. Policy of state.**

It is declared to be the policy of this state to reduce the number of fatalities and injuries caused by collisions between motor vehicles and railroad trains; to eliminate as far as possible unnecessary conflicts between railroad transportation and highway transportation; to improve the movement of both rail and highway traffic by eliminating grade crossings; and to assist in relocation of railroad facilities that bisect the central portions of municipalities, thus hampering the growth of both the municipality and the railroad services; the effect of such policies being to benefit and enhance the community as a whole. These policies shall not be implemented in any manner without just compensation to all damaged parties, including both railroads and shippers, and, where appropriate, alternate routes for affected railroads.

## **74-1302. Railroad transportation safety district; formation; purpose.**

Whenever, in a county in which is located a city or cities of the primary or first class, it will be conducive to the public health, safety, convenience, or welfare (1) to move, relocate, or remove any railroad tracks or railroad right-of-way, including improvements, (2) to relocate or remove any railroad yard, switch yard, or switch tracks, (3) to change, construct, eliminate, or reconstruct, including the use of protective devices of any kind or nature, any highway or street crossing of a railroad property, (4) to move, construct, or reconstruct any railroad bridge, viaduct, or subway, (5) to acquire, negotiate, sell, or eliminate any joint trackage operating rights or any rights of other individuals or entities over, in, or on any railroad tracks, rights-of-way, switch yards, or switch tracks, or (6) to do any two or more of the activities listed in subdivisions (1) through (5) of this section, a special district to be known as a railroad transportation safety district may be formed and may proceed, as provided in sections [74-1301](#) to [74-1308](#), for the purpose of inaugurating, developing, and negotiating for programs which may involve the constructing, reconstructing, leasing, maintaining, or selling of such work or works of public transportation improvement.

## **74-1303. District; formation; procedure.**

Such a district shall be formed by the adoption of a resolution of formation, after a finding that such district is conducive to the public health, safety, convenience, or welfare, by the city council of the city or cities and by the county commissioners of any county in which such city or cities are located. Such district shall then come into existence in accordance with the date set in the resolutions of formation.

#### **74-1304. Board of directors; members; appointment; expenses.**

(1) If a district is formed which includes only one city, such district shall be governed by a board of directors made up of three members from the city council of such city adopting such resolution, which members shall be designated by such council, and of three members from the county commissioners of such county adopting such resolution, which members shall be designated by the county board.

(2) If a district is formed which has two or more cities of the primary or first class, such district shall be governed by a board of directors made up of three members from each city council adopting such resolution, which members shall be designated by such council, and of three members from the county commissioners of such county adopting such resolution which members shall be designated by the county board. When participating in the district's affairs, the members representing the cities shall each have one vote and the members representing the county shall each have one vote for each city represented, so that the total number of votes of members of the cities is equal to the total number of votes of members of the county.

(3) In each instance such designated individual shall be an elected member of such body. No additional compensation shall be paid to such directors, but such directors shall be paid their actual expenses while engaged in the business of the district. Such directors shall be appointed annually by the respective bodies, or when a vacancy shall earlier occur.

#### **74-1305. District; powers.**

(1) Such district shall have the power, right, and authority after notice and public hearing (a) to purchase within or without such county railroad rights-of-way including the improvements, (b) to purchase land not presently owned or used by any railroad company for additional right-of-way or additional switch or yard space where changes of routes or construction of interconnections or of new railroad yards is necessary or desirable, and (c) to acquire through the exercise of the power of eminent domain, but only upon the vote of the directors of such district, which vote shall require a five-sixths majority in districts governed pursuant to subsection (1) of section [74-1304](#) and a two-thirds majority in districts governed pursuant to subsection (2) of section [74-1304](#), and the written approval by each railroad involved in the contemplated relocation project, such land as set forth in subdivision (1)(b) of this section for the purposes set forth in such subdivision, which acquisition shall follow the procedures set forth in sections [76-704](#) to [76-724](#).

Such land and improvements as may be acquired for the purpose of the removal of railroad trackage may be disposed of by conveying the same for reasonable consideration to a governmental entity for public purposes or by sale of the same as set forth in this section. Such new railroad rights-of-way, switches, and yards as may be obtained and constructed may be leased for use to railroads or may be sold to such railroads or may be traded to such railroads for other property belonging to such railroads.

Such property, real or personal, shall be sold in such manner and under such terms and conditions as the board shall deem in the best interests of the district, except that if the fair market value exceeds five thousand dollars, it may only be sold after due notice and hearing by such board at a regular meeting upon the vote of a majority of such board.

(2) The board of directors of such district shall also have the right and authority to enter into contracts or other arrangements with the United States Government or its departments, any persons, railroads, corporations, political subdivisions, public and municipal corporations, and the state government of this state, making full use of the Interlocal Cooperation Act and the Joint Public Agency Act, for (a) cooperation or assistance in the design, construction, maintenance, sale, or lease of the works of the district, (b) making surveys and investigations or reports in relation to the objectives of the district, (c) cooperation or assistance in obtaining the construction, maintenance, or operation of a work or works of public improvement within the district for any of the purposes described in section 74-1302, (d) receiving the title or possession, or both, of any property and funds connected directly or indirectly with the purposes described in section 74-1302, (e) assuming, and becoming bound by, any obligations, promises, or covenants so connected, or (f) holding and saving the United States or others free from damages resulting from any construction works that may be undertaken.

(3) Prior to implementing any plans affecting matters of planning by or the interests of any planning commission located within such district, the interests of any municipality, county or state educational institution or school district a portion of which lies within such district, any municipal county, any agricultural society, any airport authority, any natural resources district, or any other similar political entity, and any railroads, shippers, and affected property owners, the board shall consult with and submit such plans to such entities as may be concerned for study, review, comment, and suggestion. Approval of any state or federal regulatory agency shall be secured, when necessary, prior to implementing any of the provisions contained in sections 74-1301 to 74-1308 and the district shall comply with the requirements of any such agency.

(4) In developing plans for specific projects, to determine the feasibility of implementing the purposes of sections 74-1301 to 74-1308, the district shall examine the costs and benefits to the community or communities, the railroads, and the highway users and shall calculate the costs and benefits by consideration being given but not limited to loss of revenue, increased operating costs, costs of installation, acquisition of real and personal property, relocation, signalization, communication, utilities, avoidance of hazards, creation of transportation efficiencies, resolving conflicts of land use, and any other ancillary or peripheral costs or benefits.

**74-1306. Budget; submit to county board; levy; tax.**

Before July 1 of each calendar year, the board of directors shall prepare an itemized budget of funds needed for the next fiscal year which are necessary to carry out the authorities granted under sections [74-1302](#), [74-1303](#), and [74-1305](#). The board of directors shall transmit such budget to the county board. The county board shall levy a tax sufficient to produce the amount of funds requested but not to exceed two and six-tenths cents on each one hundred dollars upon the taxable value of all taxable property in the county subject to section [77-3443](#). Such levy shall be in addition to all other levies authorized or limited by law. The tax so levied shall be collected in the same manner as other property taxes, and the proceeds therefrom shall be kept in a separate account identified by the official name of the transportation district. The county treasurer shall transfer such funds to the district as requested by the board of directors.

**74-1307. Bonds; issuance; sinking fund.**

For carrying out the purposes and powers set forth in sections [74-1302](#), [74-1303](#), and [74-1305](#), including paying the cost thereof, the district may: (1) Borrow money and issue its negotiable general obligation bonds upon such terms and conditions as the board of directors may determine and without a vote of the electors; (2) issue warrants to contractors and others furnishing services or materials or in satisfaction of other obligations created under sections [74-1302](#), [74-1303](#), and [74-1305](#), such warrants to be issued in such amounts and on such terms and conditions as the board shall determine, and to be redeemed and paid upon the sale of bonds or receipt of other funds available for such purpose; and (3) establish a sinking fund for the payment of such bonds as may be issued under this section.

**74-1308. Officers; meetings; bond; records; inspection; treasurer; report; violations; penalty.**

(1) The board of directors shall annually elect a president, vice president, secretary, and such other officers as may be necessary. The board shall cause to be kept accurate minutes of its meetings and accurate records and books of account, conforming to approved methods of bookkeeping, clearly setting out and reflecting the entire operation, management, and business of the district, which shall be kept at the principal place of business of the district. All books, papers, and vouchers shall be subject to public inspection at reasonable hours, and the district shall be subject to the Open Meetings Act.

(2) The treasurer of such district shall be the treasurer of the county of such district and shall annually make a detailed report in writing of all receipts and disbursements. The report shall contain a statement of (a) the funds on hand belonging to the district, (b) the amount, if any, in the hands of the county treasurer, (c) all money received during the preceding year from all sources, and (d) all items of disbursement during such year and the purposes for which the same have been paid out, including all compensation paid to officers of the district and all other expenses of administration. The report shall be verified under oath. A copy of the same shall be filed annually with the county clerk of the county.

(3) Such officers and employees as may be designated by the board of directors shall furnish bonds in such amounts as may be fixed by the board of directors. Such bonds shall be conditioned upon the faithful performance of the duties of each such officer or employee and the proper accounting for all funds or property coming into the hands of each such officer or employee. Such bonds shall (a) run to the district, (b) be signed by a surety or sureties to be approved by the county clerk of the county, and (c) be filed and recorded in the office of such county clerk.

(4) If any such treasurer fails or neglects to make out the report or file the same with the county clerk as required by subsection (2) of this section, if any officer of such district neglects or refuses to submit for inspection any records or papers of such district upon demand of any person interested, or if any person otherwise neglects to perform any duties imposed upon him or her by this section, he or she shall be guilty of a Class V misdemeanor.