

**MARICOPA COUNTY  
QUIET ZONE ORDINANCE No. P-33**

AN ORDINANCE OF THE BOARD OF SUPERVISORS OF MARICOPA COUNTY, ARIZONA, AUTHORIZING THE MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION TO ADDRESS COUNTY PROPERTY OWNERS' CONCERNS RELATED TO UNWANTED TRAIN HORN NOISE, THROUGH A QUIET ZONE PROGRAM SUPPLEMENTED BY VOLUNTARY FINANCIAL CONTRIBUTIONS BY PROPERTY OWNERS.

**WHEREAS**, the laws of the State of Arizona including Arizona Revised Statutes Sections 11-251 and 11-251.05 authorize the Board of Supervisors to lay out, maintain, control and manage public roads and adopt ordinances within Maricopa County; and

**WHEREAS**, neighborhoods and residents seek to employ quiet zone measures, in accordance with federal requirements and approved engineering standards, to prevent or reduce unwanted train horn noise, thereby enhancing the quality of life in residential areas of unincorporated portions of the County; and

**WHEREAS**, quiet zone measures could potentially be most appropriately applied to unincorporated portions of the County, in response to property owners' requests; and

**WHEREAS**, this ordinance would further promote the public health, safety and welfare in residential areas of unincorporated portions of the County by allowing the Maricopa County Department of Transportation to appropriately apply application of quiet zone measures intended to prevent or reduce unwanted train horn noise; and; NOW

**IT IS HEREBY ORDAINED** by the Board of Supervisors of Maricopa County, Arizona, that the Maricopa County Quiet Zone Ordinance is hereby adopted as fully set forth in this ordinance.

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**CHAPTER 1 – PURPOSE AND TITLE**

**101. PURPOSE**

The purpose of this ordinance is to authorize the Maricopa County Department of Transportation to address county property owners' concerns related to unwanted train horn noise, through a quiet zone program supplemented by voluntary financial contributions.

**102. TITLE**

This document shall be referred to and known as the "Quiet Zone Ordinance".

**CHAPTER 2 – SEVERABILITY AND APPLICABILITY**

**201. SEVERABILITY**

If any portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the ordinance.

**202. APPLICABILITY**

This document shall apply to unincorporated areas of Maricopa County within the jurisdiction of the Maricopa County Board of Supervisors and property owners in those areas of the County.

**CHAPTER 3 - ACRONYMS**

The following acronyms are for the purposes of this ordinance and are identified in **49 CFR Parts 222 and 229, Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule**, Section 222.9 as supplemented by MCDOT:

AZCC:	Arizona Corporation Commission
ADOT:	Arizona Department of Transportation
Final Rule:	<i>49 CFR Parts 222 and 229 Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule</i>
FRA:	Federal Railroad Administration
MCDOT:	The Maricopa County Department of Transportation
MUTCD:	Manual on Uniform Traffic Control Devices
NSRT:	Nationwide Safety Risk Threshold

QZRI:	Quiet Zone Risk Index
RIWH:	Risk Index with Horns
SSM:	Supplemental Safety Measure

## CHAPTER 4 - DEFINITIONS

The following definitions are for the purposes of this ordinance and are identified in **49 CFR Parts 222 and 229, Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule**, Section 222.9 as supplemented by MCDOT:

### Alternative Safety Measures (ASM):

A safety system or procedure, other than a Supplementary Safety Measure (SSM), which, after individual review and analysis by the Associate Administrator, is determined to be an effective substitute for the locomotive horn in the prevention of highway-rail casualties. For the purposes of this ordinance, MCDOT will only consider the FRA approved SSMs when considering a Quiet Zone within its jurisdiction. ASMs are further defined in 49 CFR Part 222.

### Associate Administrator:

Associate Administrator for Safety of the FRA

### Diagnostic Team:

A group of knowledgeable representatives with an interest in a highway-rail grade crossing. It is organized by the public authority responsible for that crossing. The team, using crossing safety management principles, evaluates conditions at a grade crossing to make determinations or recommendations concerning the safety needs at that crossing. The diagnostic team is composed of railroad personnel, public safety or law enforcement, engineering personnel from the State agency responsible for grade crossing safety, and other concerned parties.

### Grade Crossing Inventory Form:

US DOT National Highway-Rail Grade Crossing Inventory Form

### Nationwide Safety Risk Threshold (NSRT):

Reflects a measure of risk based on a nationwide calculation that reflects the average level of risk to the motoring public at a public highway-rail grade crossing equipped with flashing lights and gates, and at which locomotive horns are sounded. A risk level above this threshold represents a significant risk with respect to loss of life or serious personal injury. This threshold is calculated annually and published by the FRA in the Federal Register.

### Partial Quiet Zone:

A segment of rail line at least one-half (1/2) mile in length that contains one or more consecutive public crossings where the train horn is not routinely sounded between the hours of 10:00 p.m. and 7:00 a.m.

#### Private Highway-Rail Crossing

Means a highway-rail at grade crossing, which is not a public highway-rail grade crossing. Private highway-rail grade crossings will not be considered for Quiet Zone evaluation or implementation under this policy. All private crossings within a one-half (1/2) mile radius of the crossing must be abandoned.

#### Property Owner

Means any person or corporation possessing legal or equitable title to the property whether for that person, corporation or another and includes persons or corporations holding or expecting title under a contract for the sale of real property.

#### Public Authority:

Means the public entity responsible for traffic control or law enforcement at the public highway-rail grade crossing

#### Public Highway-Rail Crossing:

If a public authority maintains the roadway on both sides of the crossing, the crossing is considered a public crossing.

#### Quiet Zone:

A section of rail line at least one-half (½) mile in length that contains one or more consecutive public highway-rail grade crossings at which locomotive horns are not routinely sounded.

#### Quiet Zone Risk Index (QZRI):

Reflects the measurement of risk to the motoring public after adjustments to account for the lack of locomotive horn use at the crossing and considering SSMs implemented within the Quiet Zone.

#### Supplementary Safety Measure (SSM)

A safety system or procedure established in accordance with the Final Rule, which is provided by the appropriate traffic control authority or law enforcement authority responsible for safety at the highway-rail grade crossing and determined to be an effective substitute for the locomotive horn in the prevention of highway-rail casualties. Examples of SSMs are provided in the Final Rule. For complete information and requirements associated with SSMs see the Final Rule document.

## **CHAPTER 5 - ADMINISTRATION**

### **501. ADMINISTRATIVE RESPONSIBILITY**

It shall be the responsibility of the Maricopa County Department of Transportation (MCDOT) to implement this ordinance.

## 502. ADMINISTRATIVE FORMS AND ACCOUNTING PROCEDURES

The Department may develop and revise administrative forms and accounting procedures as necessary and appropriate to implement this ordinance.

## 503. GENERAL PROCEDURES

The Department shall apply the following general procedures when considering a request for a quiet zone:

### A. Initial Contact

A property owner may contact the Traffic Management Division of the Maricopa County Department of Transportation (MCDOT) at (602) 506-8600 to inquire about a Quiet Zone. The County will mail an informational packet to the requestor. After reading the information, if residents or property owners are interested in pursuing a Quiet Zone, they should fill out the "Request for Quiet Zone" form provided in the informational packet and return it to the County Traffic Engineer. Upon receipt of the form by the County, the Quiet Zone process will be initiated.

The informational packet (see Appendix A) will include the following items:

#### Quiet Zone Cover Letter

The letter will provide important instructions and the website link to the Federal Railroad Administration (FRA) Guidelines.

#### Request for Quiet Zone - Form

This form will describe the location of the proposed Quiet Zone and the contact information of the requestor or who will act as the representative (point of contact) for further correspondence through the process.

#### Petition for Quiet Zone - Form

This form will include petition instructions that can be used by the requestor in obtaining the necessary support for Quiet Zones. **A two-thirds (2/3) majority of signatures must be obtained from the property owners living within the designated one-half (1/2) mile radius of the crossing(s) as defined by MCDOT, plus 100% of all fronting property owners who are directly impacted by the Quiet Zone are necessary to allow for further consideration or evaluation.** The Petition will include instructions and return contact information. It will also include proximity of the signatories to the crossing.

Forms provided in the informational packet should be filled out and sent to **Maricopa County Department of Transportation, 2901 W. Durango Street, Phoenix, Arizona 85009 (Attn: Traffic Engineer).**

**NOTE: The FRA will only permit an authorized public authority to apply for Quiet Zone status. Individual residents or property owners do not have the authority to obtain Quiet Zone status without MCDOT's concurrence that a particular Quiet Zone is acceptable.**

**B. Quiet Zone Initial Screening:**

An initial screening will be conducted by MCDOT to identify if the crossing(s) requested will be considered for further evaluation. The initial screening will be conducted on a pass/fail basis to determine if the following minimum requirements are met:

- No private crossing exists within a one-half (1/2) mile radius of the desired Quiet Zone location. If a private crossing is found to exist it shall be a responsibility of the community to work with the owners, individuals and/or entity utilizing the crossing to close it off to allow for further consideration as a Quiet Zone.
- The length of the desired Quiet Zone must be a minimum one-half (1/2) mile.
- The Quiet Zone requested is limited to those areas where the quality of life for the adjacent public is impacted by the train noise. Qualifying land uses are residential, hotel/motel and/or resort located within one-half (1/2) mile radius of the crossing.
- The minimum two-thirds signatures required as part of the petition shall consist of the qualifying property owners living within one-half (1/2) mile radius of the crossing, plus 100% of all fronting property owners that are directly impacted by the Quiet Zone request.

The initial screening may be prepared using a standard MCDOT evaluation form.

If the minimum requirements are not met, the County will notify the requestor (specified in the Request for Quiet Zone form) in writing that the request has been denied and the reasons for the denial.

**3. Quiet Zone Preliminary Evaluation:**

If the proposed Quiet Zone meets the initial screening requirements, the County will notify the requestor (specified in Request for Quiet Zone form) in writing that a preliminary Quiet Zone evaluation will be conducted as outlined in Appendix B. The preliminary evaluation will consist of the following:

Conduct a field investigation at the crossing(s).

- Review US DOT National Highway-Rail Grade Crossing Inventory Form;
- Inventory the existing traffic control devices;
- Inventory the highway-rail safety devices;

- Inventory the existing geometric features at the crossing;
- Obtain distances between the crossing(s) and the adjacent driveways and intersections; and
- Observe other notable deficiencies and safety measures at the crossing.

This investigation will assist in developing the minimum improvements specified by MCDOT. The checklist in Appendix B can be used to help in field investigation.

Calculate Preliminary Quiet Zone Risk Index (QZRI) and Risk Index with Horn (RIWH) Values. This consists of determining the QZRI value, which is the risk index without horns, and the Risk Index with Horns (RIWH) based on the FRA Quiet Zone Calculator. The FRA Quiet Zone Calculator can be found on the FRA web site <http://www.fra.dot.gov/us/content/1318>. A Quiet Zone will be considered for further evaluation only if the QZRI is less than or equal to the RIWH or the QZRI is less than or equal to the National Significant Risk Threshold (NSRT).

Establish Quiet Zone Priority Ranking. This consists of an objective review of the merits of a particular Quiet Zone request compared to other competing requests. It is anticipated that a number of requests for Quiet Zones will be processed by MCDOT and that the implementation of Quiet Zones will occur over time as resources become available.

Upon completion of the preliminary evaluation, the MCDOT Traffic Management Division will notify the requestor in writing of the results. A public meeting will be held, arranged cooperatively between the Traffic Management Division and the Community Relations Branch, to share the results of the preliminary evaluation with the community. During the meeting, MCDOT will present the anticipated costs for the formal evaluation, design and construction of any Quiet Zone related improvements. Additional details on the next step in the process will be provided as well.

#### **4. Quiet Zone Formal Evaluation**

Based on the outcome of the preliminary evaluation and the public meeting, MCDOT may initiate a formal Quiet Zone evaluation. The formal Quiet Zone evaluation process shall be controlled by MCDOT.

Formal evaluation of the Quiet Zone at this point will be based on the following:

- Final results of the preliminary evaluation;
- Estimated design and construction costs associated with the proposed SSMs;
- Available funding of the parties involved;
- Signed financial commitments and agreements between the requestor and MCDOT; and
- Priority of each request.

**NOTE REGARDING COST AND PAYMENT:** It is important that each applicant/requestor understands that MCDOT will only contribute funds to the initial screening and preliminary evaluation steps. From the time that the preliminary evaluation is completed MCDOT will not contribute any additional funds to potential Quiet Zone projects. From this point forward, MCDOT shall inform the applicant that MCDOT will agree to continue with implementation of appropriate quiet zone measures only if the applicant agrees to voluntarily provide in advance of any further work 100% of the quiet zone costs to be incurred after completion of the initial screening and preliminary evaluation steps of the quiet zone process, as described in this Ordinance. The voluntary contribution must be in the form of a cashier's check or money order made payable to the "Maricopa County Department of Transportation." Personal checks will not be accepted.

The following items will be addressed at the start of the formal Quiet Zone evaluation:

- Identification of all project stakeholders;
- Identification of the diagnostic team; and
- Planning and notification of the time, date and location of the Diagnostic Team Meeting.

The MCDOT Traffic Management Division will conduct an evaluation, which will be prepared as outlined in this document and will include a preliminary cost estimate associated with the recommended Quiet Zone implementation plan. Prior to proceeding with design, the study results and cost estimate(s) will be presented to the requestor(s) for comment.

Upon resolution of the comments, if it is determined that design and construction are necessary, the requestor(s) shall bear all the costs associated with the Quiet Zone.

## **5. Quiet Zone Implementation**

The FRA has established two (2) general approaches to reduce the crossing risk and qualify a Quiet Zone under the Final Rule. Approach 1 includes the application of SSMS as defined in chapter 4 of this ordinance. Approach 2 includes the application of ASMs as defined in chapter 4 of this ordinance. Under either approach, every crossing within the Quiet Zone must satisfy the following minimum requirements:

- a. Every public crossing must be equipped with active warning devices including flashing lights, gates and bells.
- b. Each crossing shall have a power out indicator.
- c. The length of the Quiet Zone must be a minimum of one-half (1/2) mile, per FRA guidelines.
- d. Each approach to the crossing on every public or private roadway must have an advanced warning sign (designed and placed in accordance with the MUTCD) that advises motorists that horns are not sounded at the crossing.

- e. A diagnostic team shall review all crossings within a proposed Quiet Zone (MCDOT requirement).
- f. All crossings shall be equipped with automatic bells regardless of whether bells or pedestrian facilities currently exist (MCDOT requirement)
- g. Constant warning track circuitry shall be required at all crossings (MCDOT requirement)
- h. No private highway-rail crossings are permitted within a designated Quiet Zone. Any private crossings within a designated Quiet Zone must be closed or otherwise abandoned from use (MCDOT requirement)
- i. The desired Quiet Zone must meet all FRA and MCDOT requirements prior to implementation.

Note: MCDOT will only accept Quiet Zones established under Approach 1, Public Authority Designation. Thus, only Approach 1 is discussed below.

*Approach 1. Public Authority Designation (Automatic Approval)*

This approach may be used if the public authority complies with at least one of following conditions:

- a. Implement one or more Supplemental Security Measures (SSMs) at every public crossing within the Quiet Zone.
- b. Implement SSMs at crossings within the Quiet Zone such that Quiet Zone Risk Index (QZRI) is equal to or less than the Risk Index with Horns (RIWH) or the National Significant Risk Threshold (NSRT).

Use of this approach allows the public authority to designate a Quiet Zone without the necessity of FRA review and approval.

The following steps should be taken to establish a “New” Quiet Zone as necessary under the Public Authority Application method, as specified in 49 CFR Part 222.

1. As an initial step in designating a Quiet Zone, a field review will be conducted of each potential crossing within the length of the proposed Quiet Zone. A “diagnostic team”, in accordance with 49 CFR Part 222, shall perform this field review. MCDOT shall document the diagnostic team’s recommendations concerning the safety of the subject crossings in order to proceed with the Quiet Zone request. MCDOT will make a final decision on what improvements (if any) will be appropriate at each grade crossing within the desired Quiet Zone.
2. The MCDOT Traffic Management Division shall provide a written “Notice of Intent” to the Key Stakeholders and obtain their cooperation and comments as specified in the Final Rule. The notice shall be sent to following parties.
  - Applicable Railroad company
  - Local agencies responsible for highway and road safety

- ADOT Utilities and Railroad Division
- Arizona Corporation Commission (AZCC)
- Federal Railroad Administration (FRA)

This notice shall contain all of the following items:

- An identification of all crossings within the Quiet Zone. The US DOT National Highway–Rail Grade Crossing Inventory number and the street or highway name shall identify each crossing.
  - Time period during which train horn restriction is sought (24 hours or from 10pm to 7 am).
  - Brief explanation of the tentative plans for implementing improvements within the Quiet Zone.
  - Name, title and contact information for the person who will act as point of contact during the development process.
  - List of the names and addresses of each party notified.
3. Each party receiving a copy of the Notice of Intent will have an opportunity to submit information or comments about the desired Quiet Zone to MCDOT during the 60-day period after the date on which the Notice of Intent will be mailed. This 60-day comment period may terminate when MCDOT obtains comments or ‘no-comment statements’ from each railroad operating over the public grade crossing, from the Arizona Corporation Commission (AZCC) who is responsible for rail grade crossing safety in Arizona, and from all state or local agencies responsible for highway and or road safety for the roadways intersecting the railroad.
  4. The USDOT Grade Crossing Inventory Form will be updated to reflect the existing conditions at each public grade crossing within the Quiet Zone. The instructions on how to update the form may be found at <http://www.fra.dot.gov/us/content/801>
  5. The Traffic Management Division will coordinate with the State and the applicable railroad company in updating the national inventory forms for each public highway-rail grade crossing within the Quiet Zone.
  6. After installation of the appropriate SSMS, the Traffic Management Division will send “Notice of Quiet Zone Establishment” by certified mail, return receipt requested, to the parties listed below. It shall be mailed no later than 21 days before the date on which train horns are scheduled to cease sounding. This notice shall not be served earlier than 60 days after the Notice of Intent has been mailed, unless the Notice of Quiet Zone Establishment contains a written statement affirming that written comments and/or ‘no comment’ statements have been received from each party that received the Notice of Intent. (49 CFR Part 222)
    - Applicable railroad companies operating within the Quiet Zone.
    - The highway or traffic control authority, and the law enforcement authority with jurisdiction over motor vehicle traffic at each Quiet Zone crossings.

- ADOT Utilities and Railroad Division.
- The AZCC.
- The FRA Associate Administrator.

The Notice of Quiet Zone Establishment shall include the following:<sup>1</sup>

- All crossings locations within the Quiet Zone. The US DOT National Highway-Rail Grade Crossing Inventory number and the street or highway name will identify each crossing.
  - Regulatory provision that provides the basis for establishing the Quiet Zone (49 CFR Part 222).
  - Copy of the FRA Quiet Zone Calculator web page that contains the data on which the County is relying, if the QZRI (Quiet Zone Risk Index) was used to justify establishment of a Quiet Zone.
  - Diagnostic team's recommendation and a statement affirming that the state agency responsible for grade crossing safety and all affected railroads were provided an opportunity to participate in the diagnostic team review (if a diagnostic team was required under 49 CFR Part 222).
  - Indication of the time period during which horn restriction will be observed.
  - An accurate, complete Grade Crossing Inventory Form for each crossing within the Quiet Zone that reflects conditions at the crossing before new SSMs were implemented.
  - Written statement affirming that the Notice of Intent was provided in accordance with the FRA Final Rule, indicating the date on which the Notice of Intent was mailed.
  - Name and title of the person responsible for monitoring compliance with the requirements of the rule and his/her contact information, business address, telephone number, fax number, and email address.
  - Name and addresses of all the parties notified in accordance with the rule; and
  - A statement signed by the County Traffic Engineer certifying that the information submitted by the County is accurate and complete to the best of his/her knowledge and belief.
7. MCDOT will have an opportunity to reduce the risk within the desired Quiet Zone by adding SSMs at one or more crossings within a potential Quiet Zone. The Quiet Zone calculator shall be used in determining which SSMs may be used.

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<sup>1</sup> A sample of notification packet can be found at [http://www.fra.dot.gov/downloads/safety/train\\_horn\\_rule/notification\\_sample\\_packet.pdf](http://www.fra.dot.gov/downloads/safety/train_horn_rule/notification_sample_packet.pdf)

## 504. GENERAL GUIDELINES

The Department shall use the following guidelines related to quiet zones:

In order to meet the minimum requirements for Quiet Zone designation, all crossings in the zone must have active warning devices including gates and flashing lights. All crossings must also have power out indicators and constant warning time track circuitry, if reasonably practicable.

According to the FRA, if all crossings within the zone meet the minimum requirements, they qualify for Quiet Zone status, if one of the following conditions is met:

- A. The Quiet Zone Risk Index (QZRI), without implementation of additional safety measures is equal to or less than the national averages for risk (Nationwide Safety Risk Threshold), at gated crossings, where the train horn is routinely sounded; or
- B. Implementation of FRA approved Supplementary Safety Measures (SSMs) at each public crossing within the Quiet Zone; or
- C. Implementation of FRA approved SSM's at a sufficient number of crossings within the Quiet Zone to achieve a Quiet Zone risk (QZRI) that is below national averages (NSRT) for risk at gated crossings, where the train horn is routinely sounded; or
- D. Implementation of FRA approved SSM's at a sufficient number of crossings within the Quiet Zone to achieve a Quiet Zone risk (QZRI) that is below the risk at the crossings within the Quiet Zone assuming that the train horn is sounded.

As described in the Final Rule, the minimum requirements for Quiet Zone eligibility include:

- A. Every public crossing within the desired Quiet Zone must be equipped with active warning devices including flashing lights and gates.
- B. Every public crossing within the designated Quiet Zone subject to pedestrian traffic and equipped with automatic bells shall retain those bells.
- C. Each crossing must have a power out indicator and constant warning track circuitry, if reasonably practicable.
- D. Each highway approach to every public and private crossing must have an advanced warning sign (in accordance with the MUTCD) that advises motorists that horns are not sounded at the crossing.

- E. The length of a Quiet Zone must be a minimum of one-half (1/2) mile along the length of railroad right-of-way.

In order to assure the safety of its residents, MCDOT has adopted a more restrictive policy regarding Quiet Zone implementation than exists in the Final Rule. Additional requirements of MCDOT include:

- A. A diagnostic team shall review all crossings within a proposed Quiet Zone.
- B. All crossings shall be equipped with automatic bells regardless of whether or not pedestrian facilities currently exist.
- C. Constant warning track circuitry shall be required at all crossings.
- D. No private highway-rail crossings are permitted within a designated Quiet Zone. Any private crossings within a designated Quiet Zone must be closed or otherwise abandoned from use.