

RAILROAD QUIET ZONES

THE EVOLUTION OF TRANSPORTATION IN
AN URBAN ENVIRONMENT

Why Quiet Zones?

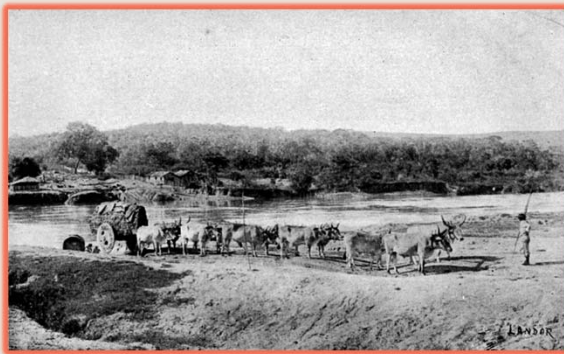
- 2 Tracks with
- 26 Crossings and
- 21 Trains per Day
- Equals Citizens Who Want Quiet!



Transportation in San Marcos

Every blessing ignored becomes a curse.

-Paulo Coelho, *The Alchemist*



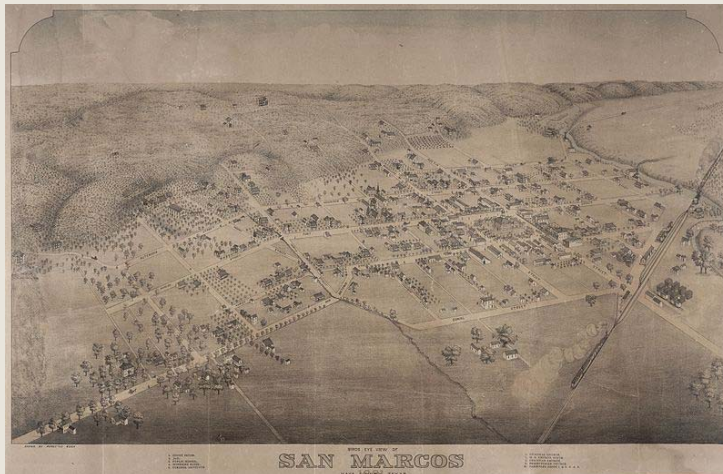
1840's & 50's Moving Goods around Texas

Ox Drawn Cart – 12 miles per day

Horse/Mule Drawn Wagon – 25 miles per day



1851 – Stagecoach Service from San Antonio
to Points North of Austin



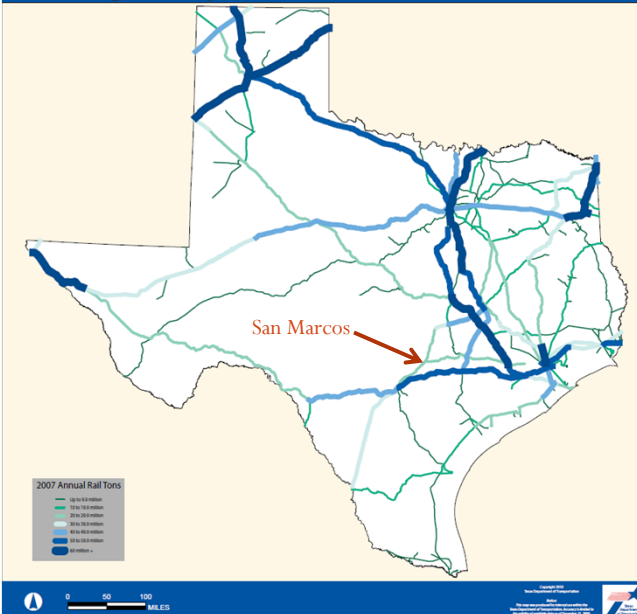
San Marcos 1880

International –Great Northern Railroad Comes to San Marcos
Stream Locomotive – 50 miles per hour

How do you make them Quiet after 132 years?

The Process for a Establishing Quiet Zone

Texas Freight Density



21 Trains per Day Could be Worse!

Requirements

- 1994 Swift Rail Development Act
- Final Rule on Use of Locomotive Horns at Highway-Rail Grade Crossings (Title 49 CFR Parts 222 & 229)
- Minimum Requirements:
 - ½ mile along track
 - Each crossing must have active grade crossing devices
 - Signage
 - Automatic bells for pedestrian traffic
 - Signage for pedestrians
- Once a zone is created crossings cannot be added/deleted.

Establishment by Public Authority Designation

- Every crossing has a Supplemental Safety Measure (SSM)



Four Quadrant Gate



Gates & Channelization



One Way Fully Gated



Permanent or
Temporary Crossing
Closure

Establishment by Federal Rail Administration

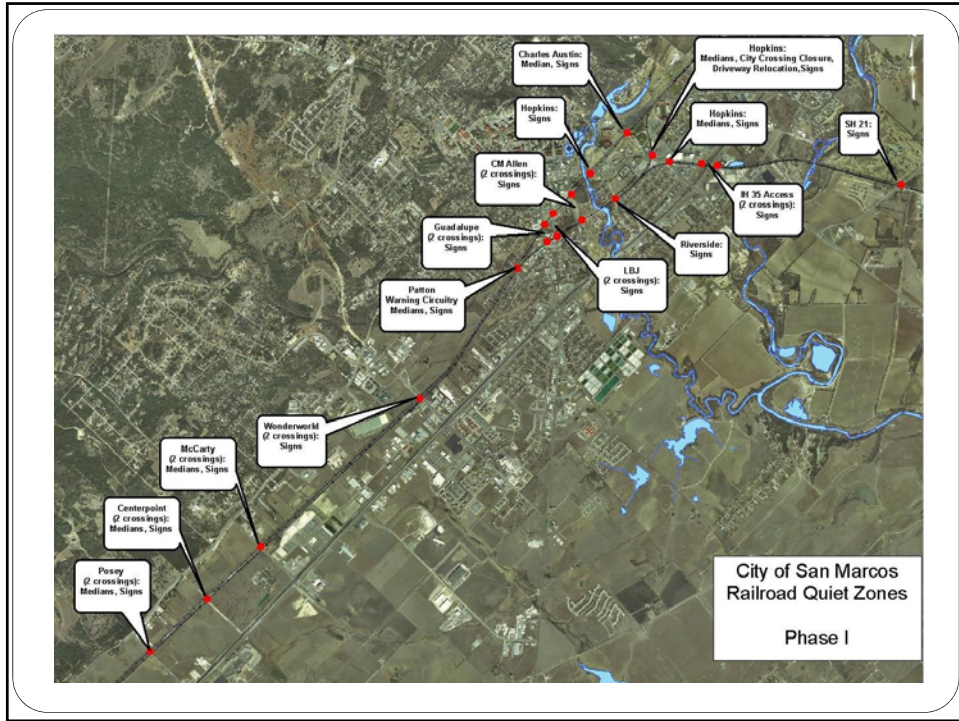
- Allows assessment of risk at each crossing within zone to be considered as part of an overall risk reduction.
- Each crossing can use a Supplemental Safety Measure (SSM) or an Alternate Safety Measure (ASM).
 - Modified SSM to address specific site conditions
 - Engineered ASM to improve safety that are not an SSM
 - Non-Engineered ASM
- Proposed solutions developed with FRA and others
- Notice of Intent prior to construction
- Notice of Establishment after construction
- Use of ASMs requires update to FRA every 2 ½ -3 years.

When it just doesn't work...

San Marcos Example:

26 crossings evaluated
6 with existing SSMs
7 with proposed SSMs
13 with proposed ASMs





The Magic of Grouping



More can be Less

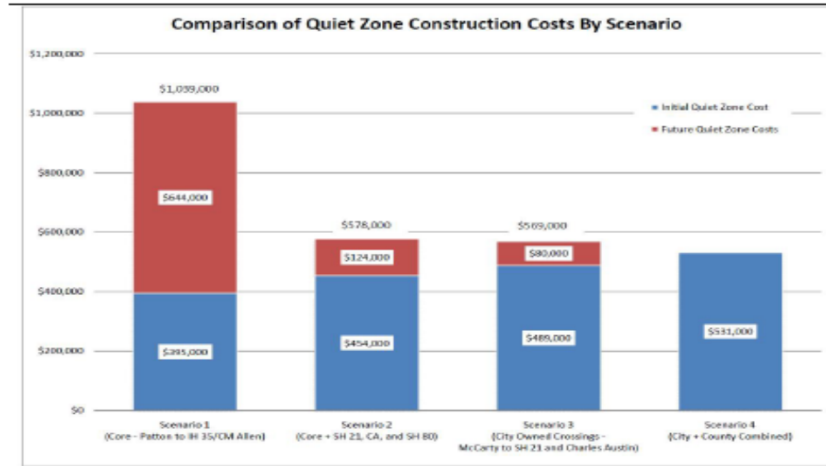


Figure 6-1: Comparison of Quiet Zone Scenario Construction Costs

Railroad Quiet Zones

Preliminary Engineering Report

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The City of San Marcos, Texas



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