

submitted by
Mark Decker
9/20/16 - council mtg
Railroad - Trains

Can the City afford to implement Quiet Zones?

Q: Won't it cost a lot of money to establish Quiet Zones?

A: Not necessarily. The key prerequisite for a crossing to be included in a Quiet Zone is that it be equipped with modern automatic safety barriers. 6 of the 10 crossings in Ashland already have such equipment, and might qualify for inclusion with little or no additional investment.

Q: Does the whole city have to be declared a Quiet Zone all at once?

A: No, the minimum requirement for a Quiet Zone is a single crossing and 1/2 mile of track. The City can establish multiple Quiet Zones.

Q: Is State or Federal money available to help pay for Quiet Zones?

A: The most expensive part of qualifying a crossing for inclusion in a Quiet Zone is installation of modern automatic safety barriers. The Oak Street crossing was recently equipped with such barriers, and ODOT paid for them. Supplemental Safety Measures, if required, would not be eligible for State funding.

Q: Exactly how much will Quiet Zones cost the City?

A: The only way to answer this question is to prepare an implementation plan. During the planning process, each crossing will be assessed to determine what safety improvements, if any, are required. Once any needed improvements are identified, their cost can be estimated and sources of funding can be identified.

Q: How much should the City spend to establish Quiet Zones?

A: Only the Council and Budget Committee can decide this question, and it cannot be answered until a plan with cost estimates is prepared. For perspective, consider that the Public Works Capital Improvement Plan in the 2015-2017 budget includes over 2 million dollars to add new sections of sidewalk. Of that amount, \$424,000 is for "the construction of a new sidewalk infill along A Street between Oak Street and 6th Street, sidewalk is currently complete along the vast majority of this section of A Street." This and the other new sidewalk projects are all listed as "Priority 1 Critical." The value and priority of Quiet Zones must be assessed relative to other CIP projects like this one.

Q: Does developing a plan for Quiet Zones commit the City to implementing it?

A: No. Planning simply identifies the most cost-effective ways to proceed. The City can decide to implement the plan partially, fully, or not at all.

Public Works - Streets CIP 2015-17

Capital Improvements City of Ashland, Oregon

2016 thru 2020

Department Public Works Dept
Contact Public Works Inspector

Project # STR 200713
Project Name Railroad Crossing Improvements: Oak Street

Type Improvements not buildings
Useful Life 15 years
Category Streets
Priority 1 Critical

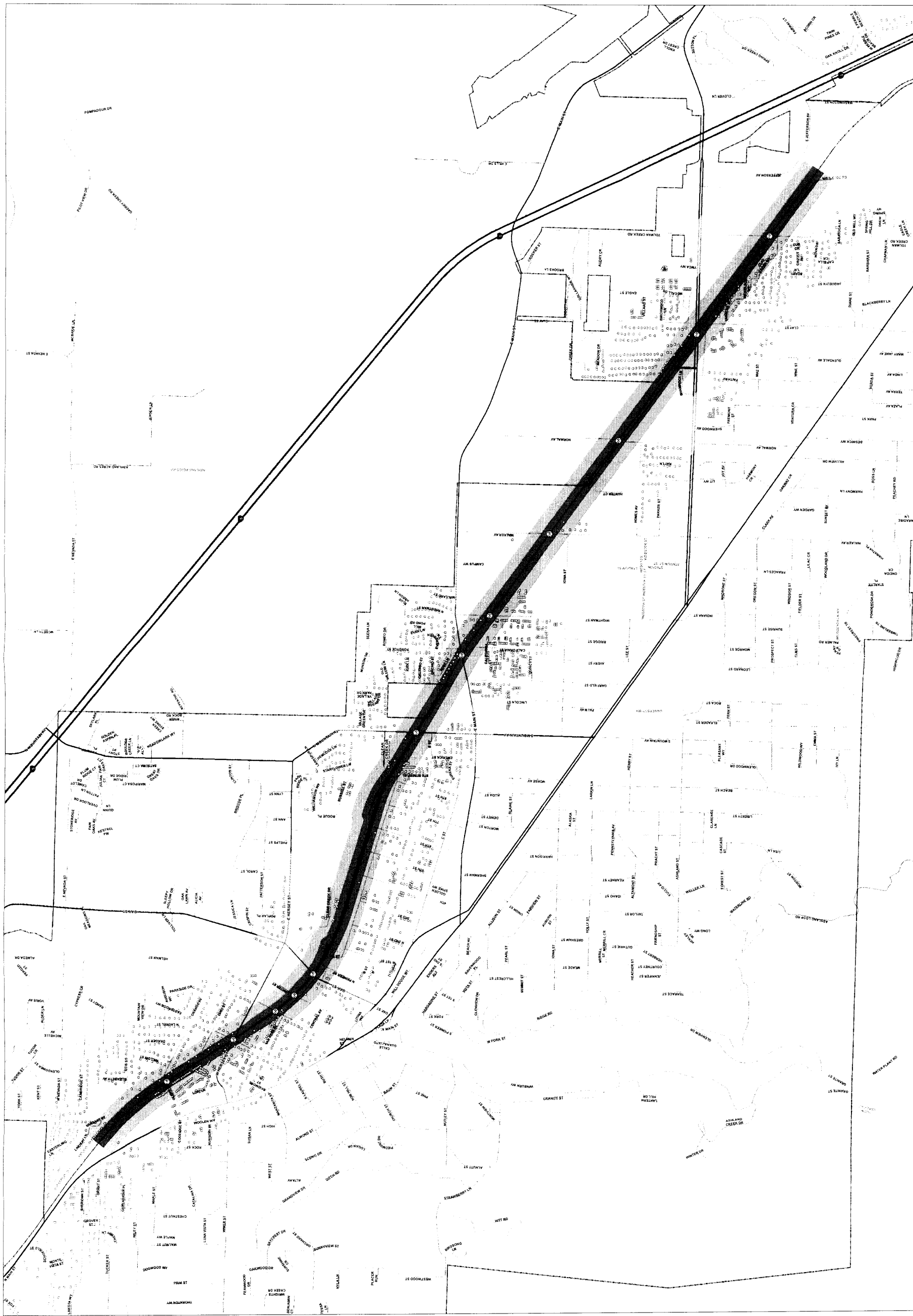
Total Project Cost: \$164,104

Description

This project will replace the crossing surface and widen the crossing for bike and pedestrian traffic. This is a functional safety improvement for all modes of transportation as recommended in the Local Transportation System Plan. Pedestrian improvements include sidewalk transitions over the tracks that tie into existing sidewalk on both sides of the crossing. Vehicle improvements include new pavement transition over the crossing and widening to accommodate bicycle traffic. Automatic Crossing gates will be installed as part of this project by DEOT Rail. The majority of work for this project is funded through DEOT Rail with the City expected to complete only the sidewalk transition improvements.

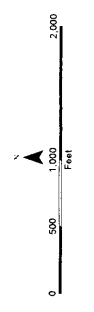
Priority	Expenditures	2016	2017	2018	2019	2020	Total
1	Construction	150,000					150,000
	Total	150,000					150,000

Priority	Funding Sources	2016	2017	2018	2019	2020	Total
1	Fates & Fees	150,000					150,000
	Total	150,000					150,000



Ashland Residences Near Railroad

④ City Limits - Outline
 □ Railroad Crossings
 ○ Residences
 — Railroads
Residences by Distance
 ■ Site Addresses within 100'
 ■ Site Addresses within 250'
 ■ Site Addresses within 500'
 ■ Site Addresses within 1000'



submitted by
Mark Decker
9/30/14 - council mtg
Railroad-Trains

Are train horns really a significant problem?

Q: When did train noise become a problem?

A: In August 2016, the Forest Service asked CORP (the railroad) to not run during the day while wildfire danger is high because trains can sometimes throw off sparks. The rationale is that cooler nighttime temperatures make ignition less likely. So, the trains started running at night, disrupting sleep for many residents.

Q: Why is train noise at night a problem?

A: Sleep is crucial to human health and well-being, and any noise that interrupts sleep is a problem. Anyone who has lost sleep to a barking dog, car alarm, or other disturbance knows that even one night of poor sleep takes a toll the next day. Train horns are especially problematic because they recur daily, and chronic sleep interruption can have long-term health effects.

Q: Who is affected by train noise in Ashland?

A: Over 2,800 homes, plus some small inns, B&B's and vacation rentals, are within 1,000 feet of the track. Within this distance, horn noise is likely to be a problem unless intervening terrain or structures block the sound. The closer a home is to the track, the more likely its occupants are to be affected, and the more severe the impact will be. A **conservative estimate**, based on official census data and geographic analysis, suggests that **more than 1,000 residents are experiencing sleep disruption** due to train noise. Train noise **disproportionately affects lower-income people** because housing near the tracks tends to be more affordable than housing elsewhere in the city.

Q: Aren't night trains just a temporary phenomenon?

A: No. Although trains are expected to return to a daytime schedule when the rains come in October, this problem will come back again and again. Wildfire danger is high every summer. Thanks to climate change, summers are getting hotter and drier, lengthening fire season. **At minimum, we will likely see night trains for several months per year, every year.**

Q: Could it get worse?

A: Yes. CORP has the right to run trains at any time of day for any reason. The City cannot dictate or restrict the train schedule. Right now, CORP only runs 2 trains per day because that's all their current customers need. However, CORP recently spent \$5 million to upgrade the line so they can carry more freight, on the expectation that their business will grow as a result. If freight customer demand changes, **CORP could run more trains at night, all year round.** And, the number of homes within the potential impact zone is increasing. Due to Ashland's desire to increase housing density and prevent sprawl, many new homes were built near the tracks within the last 10 years, and more are planned.

Mark Decker

Ashland Train Noise Impact Analysis

Color on map	Distance from train	total homes	total occupants	*percent impacted	occupants impacted
Yellow	500-1000'	1700	3700	10%	370
Orange	250-500'	681	1482	20%	296
Dark Orange	100-250'	359	781	33%	258
Red	<100'	92	200	50%	100
		2832	6163		
			total residents impacted		1024
			% of city impacted		5%

***Assumptions:**

No-one sleeping more than a few blocks away is affected

1 in 10 people sleeping 2-3 blocks from train is affected

1 in 5 people sleeping 1-2 blocks from train is affected

1 in 3 of people sleeping 1 block from train are affected

Half of people sleeping directly adjacent to track are affected

Source Data

Total city population	20325
total households	9339
avg occupants/household	2.2
Per County GIS data, # of residences within:	
1000'	2832
500'	1132
250'	451
100'	92

Quiet Zone Questions.

Are trains required to sound their horn at crossings?

The Federal Railroad Administration (FRA) train horn rule requires a train engineer to sound a horn at least 15 seconds, and no more than 20 seconds, before reaching a public grade crossing. The horns must follow a pattern of 2 long blasts, 1 short blast, and 1 long blast. The minimum sound level for a horn is 96 decibels and the maximum sound level is 110 decibels.

What is a quiet zone?

A quiet zone is a stretch of tracks – a minimum of ½ mile in length with a ¼ mile buffer on either end before the next crossing– where railroads are directed to not blow their horns when approaching at-grade street crossings except in the case of emergency situations. This can extend for 24 hours or just for specified hours such as at night. A quiet zone can only be established when there are other safety measures at the crossings to make up for the silencing of horns. These measures can include specific types of crossing gates, medians that prevent cars from going around gates, closing crossings, and wayside horns positioned at the crossing.

How does a city initiate a Quiet Zone?

The process for establishing a quiet zone requires working with the FRA, ODOT Rail, City and the affected railroad companies. The process starts with an application to the FRA. Then ODOT Rail and the RR become involved. These agencies, along with the City form a diagnostic team to evaluate the risk of collision between trains and vehicles at each crossing, as well as any necessary improvements that need to be made to deem the crossing safe for a quiet zone. After that, it is up to the local jurisdictions to go through the various steps to get federal approval of the quiet zone and get authority from ODOT Rail to install the required safety equipment and signage.

Will a SSM at a crossing satisfy a QZ improvement at a crossing?

Sometimes a Supplemental Safety Measure (SSM), which improves train safety will satisfy the requirement for a QZ improvement but not always. Each crossing is evaluated by the diagnostic team (FRA, ODOT Rail, the RR and the City). A SSM improvement at one crossing may not be the QZ solution at a different crossing. A QZ improvement is a livability issue and a SSM improvement is a train safety issue. They may be similar solutions but they are treated differently by the FRA.

Are there grants available to pay for the required crossing improvements?

There are grants for SSM improvements at crossings but not QZ improvements to crossings. SSM is a train safety improvement and FRA funds may be available, but a QZ improvement is a livability issue and therefore costs must be borne by the community.

What safety measures are required at crossings for quiet zones?

Examples of engineered supplemental safety improvements that may be necessary to reduce the risk of train-vehicle collisions include:

- permanent closure of the crossing to vehicle traffic;
- raised medians on one, or, both sides of the railroad tracks to prevent motorists from driving around lowered crossing gates;
- converting two-way streets to one-way travel; and
- 4 quadrant gates.

The use of wayside horns, in lieu of train horns, may also be evaluated as an option to train horns. If supplemental safety measures are found to be needed, it would be considered an alteration of the crossing, and they must be authorized by ODOT Rail Division in a crossing Order.

Could Ashland designate a Quiet Zone without approval by FRA? The US code below references the Nationwide Significant Risk Threshold. How do we know if the crossings in Ashland are at or below that threshold?

§ 222.39 How is a quiet zone established?

(a) Public authority designation. This paragraph (a) describes how a quiet zone may be designated by a public authority without the need for formal application to, and approval by, FRA. If a public authority complies with either paragraph (a)(1), (a)(2), or (a)(3) of this section, and complies with the information and notification provisions of § 222.43 of this part, a public authority may designate a quiet zone without the necessity for FRA review and approval.

(1) A quiet zone may be established by implementing, at every public highway-rail grade crossing within the quiet zone, one or more SSMS identified in appendix A of this part.

(2) A quiet zone may be established if the Quiet Zone Risk Index is at, or below, the Nationwide Significant Risk Threshold, as follows:

(i) If the Quiet Zone Risk Index is already at, or below, the Nationwide Significant Risk Threshold without being reduced by implementation of SSMS; or

(ii) If SSMS are implemented which are sufficient to reduce the Quiet Zone Risk Index to a level at, or below, the Nationwide Significant Risk Threshold.

(3) A quiet zone may be established if SSMS are implemented which are sufficient to reduce the Quiet Zone Risk Index to a level at or below the Risk Index With Horns.

Under what circumstances can wayside horns be installed in lieu of crossing gates?

Wayside horns are not an applicable replacement for crossing gates. Wayside horns are a one-for-one trade with a train horn

Does an at-grade crossing with crossing gates automatically qualify for a quiet zone status?

No it does not. The minimum requirement is train activated crossing gates and flashing lights. Most crossing require additional SSM's

Is there any way to bypass the diagnostic study process?

Possibly. If the proposed crossings meet, or exceed the required safety threshold and there are no private crossings or pedestrian crossings within the proposed Quiet Zone, and there are no public crossings within ¼ mile of the nearest crossing in the proposed Quiet Zone.

What are some of the factors used by the FRA to determine the risk of vehicle/train collision risk?

CFR 49 part 222, Appendix D, explains how the FRA determines the risk level, and is two pages in length. The basics are:

- Average annual daily traffic
- Total number of trains per day
- Number of highway lanes
- Number of tracks
- Maximum timetable train speed
- Whether the highway is paved or not
- Number of through trains per day during daylight hours
- History on incidents at crossing