

Hemphill West Quiet Zone

April 2012

Since the new Hemphill West quiet zone was established in early February, numerous complaints about train horn soundings have been logged from residents in the Ryan Place Improvement Association (RIPA). The following sections include background of the Hemphill West quiet zone as well as field evaluations of the quiet zone improvements and a summary of findings.

Background

Several years ago the city competed for federal funds for projects that would improve railroad crossing safety. Fort Worth submitted several projects and the Hemphill West Quiet Zone project was awarded funding. When the city received the funding it was understood that several other railroad crossings in the area would need to be addressed with quiet zone improvements to eliminate train horn noise for the entire area, but the city identified the BNSF tracks as a starting quiet zone segment since this rail line has the highest daily number of trains in the area.

The Hemphill West quiet zone project includes five crossings:

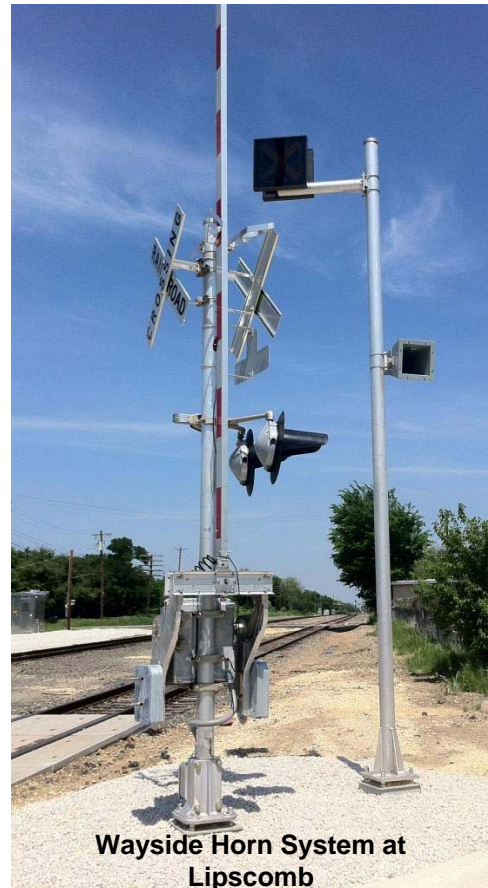
Crossing	Quiet Zone Improvement
BNSF & Jennings	Close street
BNSF & Page	Convert street to one-way
BNSF & Hemphill	Install median barrier
BNSF & Capps	Convert street to one-way
BNSF & Lipscomb	Install wayside horn system

The area around the RPIA and other nearby neighborhoods include nearly 20 railroad crossings, 4 sets of railroad tracks, and 2 railroad yards (see Map 1). The map also shows the 4 crossings that comprise the Hemphill West quiet zone as well as potential future quiet zones along the Union Pacific tracks to the east of the Hemphill West quiet zone. The city has closed 5 streets at railroad crossings that were deemed not vital for neighborhood access and to eliminate train horn noise.

Each railroad runs several trains each day along their tracks; these are shown as “trains per day” (TPE) in Map 1. The BNSF line at Hemphill Street was chosen for this quiet zone project because it had the highest train count along its segment of track in the area, thus eliminating the most train horn noise.

Quiet Zone Operation

The final construction efforts for the Hemphill West quiet zone were completed in early 2012 and the quiet zone was placed into service on February 4th. Since that time the



Wayside Horn System at Lipscomb

city's Transportation and Public Works Department (TPW) has received mixed comments from the RPIA and others in this area. Many residents have been unhappy because train horns continue to be heard day and night. Conversely, we have heard from a few businesses located adjacent to the tracks who are very pleased with the new quiet zone. These businesses have noted a significant improvement in daily life due to the lack of train horn noise along the tracks.

Evaluation Method

Video Monitoring

Because of the amount of concerns related to train horn noise, TPW located its portable railroad camera system (with audio) to record all trains from 7 p.m. to 7 a.m. on Friday and Saturday March 16 and 17. This camera system was installed at the Lipscomb Street crossing, and recorded all passing trains and the sounds from those trains at the crossing. Also, the RPIA provided reports of horn soundings throughout this same weekend. *It was determined that train horns were heard at non-quiet zone crossings and train horns are not being sounded in the Hemphill West quiet zone.* Below are the results of the investigation:

- 55 events were captured on the video during the two sets of 12 hour study periods. An event is 1) a train was captured and either it sounded its horn or the wayside horn system sounded, 2) we had a complaint about train horn noise, or 3) we heard a train horn without a train present at Lipscomb.
- 1 BNSF train was captured sounding its horn; this may have occurred due to vehicles or people near the tracks.
- 24 train horns were detected by the camera system that can be attributed to other tracks such as the Union Pacific tracks.
- The wayside horn system at Lipscomb Street worked flawlessly as intended (flashing X indication present at crossing denoting there is not a malfunction of this system) and sounded in lieu of the train horn.



Wayside Horn System Monitoring

Since we discovered the high number of reported train horns were not caused by trains on the BNSF tracks, we then did an evaluation of the wayside horn system (WHS). A second study was done on the WHS to verify the decibel levels of the system. This device is located at the Lipscomb crossing and emits a pre-recorded train horn sound every time a train arrives at the crossing. The locomotive train horn is not used when the WHS is operating properly. The WHS sound level (in decibels) is supposed to have a vastly reduced impact on the neighborhood and its sound is concentrated at the crossing instead of along an extended track length.

On the evening of April 2nd, TPW staff tested the train horn sound from the WHS at various points in the neighborhood. Addresses were chosen based on previous concerns and a sound meter was used to tabulate the decibel readings from the WHS.

As noted on Map 2, the noise produced from the WHS was working as designed. At two blocks from Lipscomb Street very little or no noise was heard.

Summary

TPW feels the Hemphill West quiet zone is operating as intended. The quiet zone has eliminated almost all train horns from the BNSF tracks. Unfortunately there are several other railroad crossings in the area as well as two train yards which are not within a quiet zone and continue to sound trains horns within this area. It will take some careful planning to determine how and if the train horns can be significantly eliminated from this part of Fort Worth.






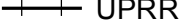


The BNSF has been responsive to all the city's inquires. They have taken each concern seriously, conducted numerous training sessions with their train crews, and provided the city with credible and complete responses.

The city has been a leader in developing quiet zones. With 200 railroad crossings, the city seeks to evaluate all quiet zone projects citywide and work to use grant, developer, and city project funds to maximize the benefit of the projects.

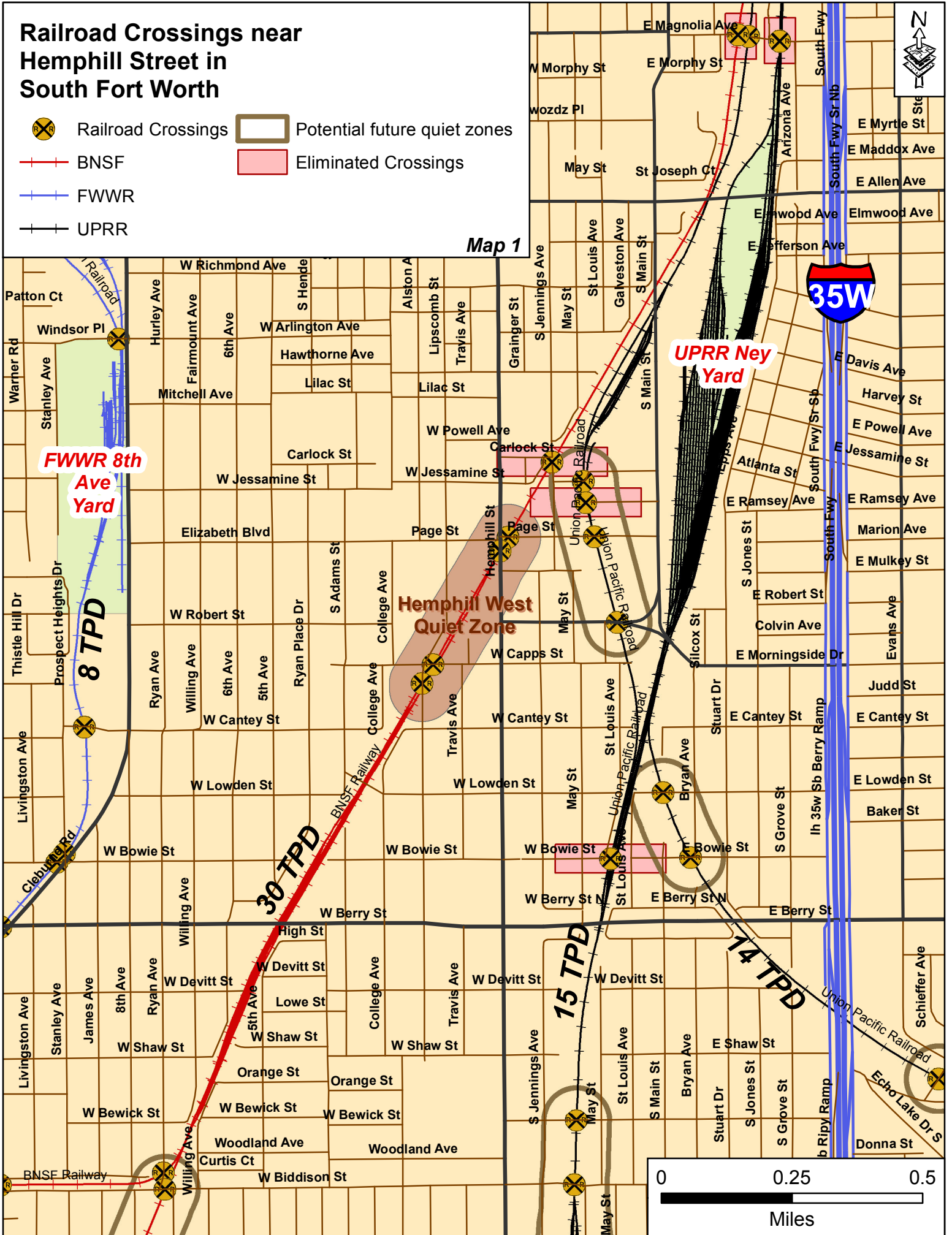
For questions about this quiet zone, please feel free to contact:

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Railroad Crossings near Hemphill Street in South Fort Worth

-  Railroad Crossings
-  BNSF
-  FWWR
-  UPRR
-  Potential future quiet zones
-  Eliminated Crossings

Map 1



Sound Measurements near Lipscomb Street Railroad Crossings

- Horn Sounding Complaints
- WHS Decibel Readings

60	Normal Voice
70	Busy Street
80	Alarm Clock
90	Lawn Mower
100	Chain Saw
110	Train Horn

Date: April 2, 2012
 Time: 7:25 pm
 Weather: Clear, 81° F, Wind SSE 14 mph, Humidity 50%
 Ambient Sound: 65 dB or less

Map 2

