

From: [Huebner, William](#)
Sent: Monday, April 3, 2023 3:19 PM
To: [Lindsay Koskiniemi](#)
Cc: [Kaydi Smith](#)
Subject: RE: Railroad Quiet Zone

Lindsay,

I have done a few quiet zones in the past, both studies to determine the viability, as well a full construction and implementation. I'm currently working on a study in Laredo for over 30 crossings on the KCS railroad. Most of the easier quiet zones were done years ago. The remaining towns that would like to implement quiet zones will have a much more difficult time, though not impossible.

The main requirements to establish a quiet zone include ensuring all crossings inside the corridor have flashing lights and gates and constant warning time circuitry (CWT). Not all crossings have CWT, which detects the speed of the train and adjusts the crossing gates closure accordingly. Many older crossings only have timers that are based on average speed, so they will not close at the proper time if a train is going much slower or much faster than the average posted speed. You also cannot have a corridor that skips crossings. In the case of Sweeny, there are only 2 at grade crossings inside the City Limits. MLK and FM 524 are the only two crossings that would need to be included in the quiet zone. You could include CR 332, west of town if you wanted to, but it wouldn't be required.

There are a few different ways to establish quiet zones, but our recommended approach is to install supplemental safety measures (SSMs) at each and every crossing included in the quiet zone. This ensures that each crossing should generally be as safe or safer than before silencing the horns. SSMs include many options, but the most frequent are plastic delineators, concrete curb medians or installing quad gate crossings. At each crossing, you can install delineators or a concrete curb from the end of the crossing gate arm to a minimum of 60ft along the centerline of the roadway. If possible, they want you to extend that to 100 ft. This should prevent cars from trying to drive around the gates while they are down.

In our experience, the plastic delineators, while cheapest of all options, do not deter drivers from going around the gates. They are hit frequently and need frequent replacement. It becomes a maintenance hassle and does not do much to prevent drivers from making unsafe detours around the gates. Typically, we have designed 12 inch tall concrete curb medians. This is an effective deterrent to people trying to drive around the gates. Even with larger vehicles in Texas, it is still difficult to drive over a 12" curb.

The one drawback to the curb or delineator approach is if you happen to have a cross street or commercial driveway within this 60-100ft. This is why so many towns are finding it hard to implement a quiet zone. Many towns have roadways that run parallel to the tracks and are 10-30ft from the tracks. By having a cross street intersect the SSM median, you don't get credit for the safety measure. It also impacts traffic paths. In Sweeny, the north side of the tracks on MLK has 3rd St. intersecting close to the tracks, but it may be far enough away to fit a 60ft median. On the south side, there is a residential driveway that is only 30ft from the gates. They would not be able to turn left and head north from their driveway once the medians are installed. FM 524 should not have any issues with cross streets or driveways, though the railroad does have an access road directly adjacent to the crossing arm.

Another option is to install a quad gate crossing. This replaces the two crossing gates with 4 gates (2 per each side). They close together and completely block the crossing to vehicular traffic. While this is the safest option, it also tends to be the most expensive. The railroad will do all the design and installation of the new gate system, but they will pass the cost onto the City. I haven't gotten recent quotes lately for quad gates, but they can easily be over \$500,000 per crossing. There are a few other SSMs that we could discuss if you are interested, but these are the most common and cost effective.

The final obstacle is the railroad upgrade cost. In many cases, the crossings do not currently have CWT or even gates. The railroad will need to upgrade this. Once again, they will do the design and construction but they will want the City to pay for this. Both crossings in Sweeny include lights and gates, but we would need to talk with the railroad to determine if CWT is installed. They also will sometimes use quiet zone projects as an excuse to upgrade their crossing equipment. We had a City move forward with a 7 crossing quiet zone where BNSF required the crossings to be upgraded to their newest standards (LED lights, electronic bells, new control circuitry, etc). This is not required by the quiet zone rule, but the RR does try to pass on these upgrades as necessary safety improvements.

While the construction costs for concrete medians may be fairly inexpensive, it is typically the railroad costs that kill these projects. In one instance, the safety measure costs were only about \$150k, but the railroad costs could be as much as \$3-4 million. We typically do a study for Cities looking to establish a quiet zone. We can go into more depth in researching what the railroad has at each existing crossing, begin discussing the railroad upgrade costs with their engineering department and determine if significant traffic rerouting is necessary to implement the new medians. If the City of Sweeny would like to pursue this quiet zone, I would recommend we do a study to determine its viability.

It is a long process to establish one of these quiet zones, but again, not impossible. I have a more formal presentation that we've given to a few groups in the past if you think that would be helpful. I don't point all this out to discourage Cities from pursuing these project, just want to be open and realistic up front.

If you have any other question or would like to discuss further, please let me know.

Thanks,



William Huebner, P.E.

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From: Lindsay Koskiniemi <citymanager@sweenytx.gov>

Sent: Thursday, March 30, 2023 5:10 PM

To: Huebner, William <William.Huebner@strand.com>

Cc: Kaydi Smith <kdsmith@sweenytx.gov>

Subject: Railroad Quiet Zone

[EXTERNAL EMAIL]: Verify sender before opening links or attachments.

Hi William,

Kaydi received an agenda item for discussion and action on the next agenda for the April 25th meeting concerning a request for a railroad quiet zone. I was with Angleton when they lost QZ status and had to go through the process of reinstatement and engineering to qualify for a QZ. I understand this to be an expensive process, and I would appreciate it if you or someone at your firm could put something in writing as to what that process involves as well as costs other cities have been known to pay to go forward with QZ approval in preparation for the meeting in April.

Thank you,

Lindsay Koskiniemi, CGFO, CPM, MPA, MSA

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