

The public authority realizes that authorizing the quiet zone by lowering the risk to below the Nationwide Significant Risk Threshold will result in an annual recalculation of the Quiet Zone Risk Index and comparison to the Nationwide Significant Risk Threshold. As the Quiet Zone Risk Index is close to the Nationwide Significant

Risk Threshold (14,074 to 15,424), there is a reasonable chance that the Quiet Zone Risk Index may some day exceed the Nationwide Significant Risk Threshold. This would result in the quiet zone no longer being qualified and additional steps would have to be taken to keep the quiet zone. Therefore, the public authority decides to reduce the risk further

by the use of traffic channelization devices at A Street. Table 3 shows the results of this change. The Quiet Zone Risk Index is now 10,320.75 which is less than the Risk Index with Horns of 11,250. The quiet zone now qualifies by fully compensating for the loss of train horns and will not have to undergo annual reviews of the Quiet Zone Risk Index.

TABLE 3

Street	Crossing risk index w/horns	Crossing risk index w/o horns	SSM EFF	Crossing risk index w/o horns plus SSM
A	12000	20016	0.75	5004
B	10000	16680	0	16680
C	8000	13344	0	13344
D	15000	25020	0.75	6255
	RIWH 11250			QZRI 10320.75

Example 2—Pre-Rule Quiet Zone

A public authority wishes to qualify a Pre-Rule Quiet Zone which did not meet the requirements for Automatic Approval because the Quiet Zone Risk Index is greater than twice the Nationwide Significant Risk Threshold. There are four public crossings in the Pre-Rule Quiet Zone. Three of the crossings are equipped with flashing lights and gates, and the fourth (Z Street) is passively signed with a STOP sign. The length of the quiet zone is 0.6 mile, and there are no private crossings within the proposed zone.

The tables that follow are very similar to the tables in Example 1. The street name is shown in the first column, and the existing risk index for each crossing ("Crossing Risk Index w/o Horns") in the second. This is a change from the first example because the risk is calculated without train horns sounding because of the existing ban on whistles. The third column, "Crossing Risk

Index w/ Horns", is the risk index for each crossing after it has been adjusted to reflect what the risk would have been had train horns been sounding. This is mathematically done by dividing the existing risk index for the three gated crossing by 1.668. The risk at the passive crossing at Z Street is divided by 1.749. (See the above discussion in "Pre-Rule Quiet Zones—Establishment Overview" for more information.) The fourth column, "SSM EFF", is the effectiveness of the SSM at the crossing. A zero indicates that no SSM has been applied. The last column, "Crossing Risk Index w/o Horns Plus SSM", is the risk index without horns for the crossing after being reduced for the implementation of the SSM. At the bottom of the table are two values. The first is the Risk Index with Horns (RIWH) which represents the average initial amount of risk in the proposed quiet zone with the train horn sounding. The second is the Quiet Zone Risk Index ("QZRI") and is the average risk in the proposed quiet zone

taking into consideration the increased risk caused by the lack of train horns and reductions in risk attributable to the installation of SSMs. Once again it is assumed that the Nationwide Significant Risk Threshold is 15,424. The Quiet Zone Risk Index must be reduced to either the Nationwide Significant Risk Threshold (15,424) or to the Risk Index with Horns in order to qualify under the rule.

Table 4 shows the existing conditions in the proposed quiet zone. SSMs have not yet been installed. The Risk Index with Horns for the proposed quiet zone is 18,705.83. The Quiet Zone Risk Index without any SSMs is 31,375. Since the Nationwide Significant Risk Threshold is less than the calculated Risk Index with Horns, the public authority's goal will be to reduce the risk to at least value of the Risk Index with Horns. This will qualify the Pre-Rule Quiet Zone under the rule.

TABLE 4

Street	Crossing risk index w/o horns	Crossing risk index w/horns	SSM EFF	Crossing risk index w/o horns plus SSM
W	35000	20983.21	0	35000
X	42000	25179.86	0	42000
Y	33500	20083.93	0	33500
Z	15000	8576.33	0	15000
	RIWH 18705.83			QZRI 31375

The Z Street crossing is scheduled to have flashing lights and gates installed as part of the state's highway-rail grade crossing safety improvement plan (section 130). While this upgrade is not directly a part of the plan to authorize a quiet zone, the public authority may take credit for the risk reduction

achieved by the improvement from a passive STOP sign crossing to a crossing equipped with flashing lights and gates. Unlike New Quiet Zones, upgrades to warning devices in Pre-Rule Quiet Zones do contribute to the risk reduction necessary to qualify under the rule. Table 5 shows the quiet zone corridor

after including the warning device upgrade at Z Street. Note that the Risk Index with Horns and the Crossing Risk Index With Horns for Z Street do not change. The Quiet Zone Risk Index has been reduced to 29,500.