

must be the subject of a filing with FRA (*i.e.*, the rule otherwise applies as revised); actual implementation of initial projects will begin not later than year four; consistent with efficient completion of required work and corridor-related safety considerations, improvements will be implemented at the most hazardous crossings first (where risk reduction opportunities are greatest) and then proceed to less hazardous crossings; no less than 25 percent of identified excess risk must be abated by the end of year five, 50 percent by the end of year six, 75 percent by the end of year seven, and 100 percent by the end of year eight; and this relief will expire eight years following publication of the interim final rule (seven years from the effective date). If a community exceeded the severity threshold in any annual review thereafter, actions would be taken as necessary to fall back below the threshold within a three-year period or the train horn would be required to sound; or actions sufficient to compensate for the loss of the train horn would have to be taken. Communities establishing New Quiet Zones would be required to follow the standards set forth in the NPRM (and would not be able to take advantage of low baseline risk, even after adjustment for loss of the train horn).

**Advantages:** This option would take into consideration the interests of communities with existing bans in a manner similar to interim final rule, except flashing lights and gates would be required where not present. It would set a requirement of flashing lights and gates for all crossings where the train horn is silenced, enhancing safety. It would also avoid any negative flow of safety benefits related to toleration of new unabated risk in New Quiet Zones.

**Disadvantages:** FRA rejected this option principally because it did not afford New Quiet Zones the same exceptions allowed for Pre-Rule Quiet Zones, thus undermining uniformity of application and requiring local authorities to expend funds on improvements for which the safety payback could not be reasonably assured at the system level. Further, FRA noted that the costs of flashing lights and gates in existing ban areas would be substantial, in some cases potentially resulting in loss of quiet zone status (with resulting disruption of settled expectations) due to financial inability of communities. Again, in many cases costs might not be fully recovered through safety benefits. FRA also discarded the rigid implementation schedule for Pre-Rule Quiet Zones on the ground it could not be effectively

policed in an environment where local authorities would find it necessary to move to a large extent on their own schedules (albeit in some cases with State assistance). FRA also concluded that excepting Pre-Rule Quiet Zones from the requirement to make safety improvements solely on the basis of no accident history (with necessarily limited exposure) could not be supported as based on sound safety analysis (and opted, instead, for a limited exception based on both accident history and underlying estimated risk).

This option was rejected as unreasonable and its environmental effects would be very similar to the proposed action.

#### Require Horns or SSMs at Highest Risk Crossings Within Each State

This alternative would have required that train horns be sounded at all grade crossings except those where (1) maximum train speed is 15 mph or less and flaggers are provided or (2) a whistle ban permitted under the rule is in effect. Existing whistle bans could continue provided high risk crossings are addressed within three years. New whistle bans could be created only if crossings within them were equipped with gates and lights. No whistle ban could include a grade crossing categorized as high risk, except crossings within existing whistle bans that are remedied within three years. High risk crossings are those with an APF greater than or equal to .05 (*i.e.*, a five percent chance of an accident occurring at that crossing in the next 12 months). Where train horns are now sounded, the crossing's APF would be increased by 44 percent to account for the absence of the train horn. Within one year of the rule's issuance, any community with an existing whistle ban would have to certify that it has reviewed FRA data on effectiveness of horns, whistle ban effects, and relative merits of SSMs and consulted with affected railroads and state officials about possible safety improvements. Any community imposing a new whistle ban must first provide the same certification. Communities with existing whistle bans may continue to include crossings lacking gates and lights unless and until the crossing has an APF of .05 or more. Once a whistle ban is in effect, any crossing that reaches an APF of .05 must be remedied within two years.

**Advantages:** This option was viewed as attractive because it would have mandated safety improvements at very high risk crossings within a relatively short time and provided categorical relief for crossings deemed relatively

low risk. It defined risk uniformly for all crossings and all jurisdictions. It is relatively simple. It defined significant risk very clearly: equal to or greater than one predicted collision every 20 years. It captured a high percentage of predicted casualties, *i.e.*, it would have addressed a high proportion of the risk presented by whistle bans.

**Disadvantages:** This option was rejected because: it does not directly take into account predicted accident severity, and therefore does not truly consider risk (frequency times severity); it does not permit sufficient flexibility to reduce risk within a quiet zone by dealing with crossings other than ones with the highest APF values and, therefore, does not adequately take into account the interest of communities with existing whistle bans; and it is not in harmony with the corridor improvement concept underlying the proposed rule. The statute addresses all crossings, not merely the most hazardous. The option focuses more on absolute risk rather than compensation for loss of the train horn (the focus of the law). A crossing-by-crossing approach to horn use would abandon the corridor approach to crossing safety improvements advocated by the U.S. DOT for many years (including eliminating the incentive for consolidation of redundant crossings), and it could result in very uneven results in terms of community quiet, depending on local implementation. The option could result in a patchwork of ban areas, adding to burden on locomotive engineers to pick out, crossing by crossing, where the horn must be sounded. This option could be more costly per unit of risk reduced because the community is required to take risk reduction at specified crossings rather than where means and need best correspond (*e.g.*, foreclosing the option of putting in medians at two moderate-risk crossings for a total cost of \$40,000 rather than installing four-quadrant gates at one higher risk crossing for an incremental cost of \$75,000–\$150,000, even though the resulting risk reduction is the same).

This alternative was not considered reasonable. If the environmental effects of this option were to be considered, the noise impact of sounding a train horn at a crossing would be the same as it would be for the preferred option and the safety benefits of sounding the train horn or fully compensating for the absence of the train horn would be the same as for the preferred option.

After considering all of these alternatives, FRA settled on the risk-based methodology adopted in this interim final rule. FRA believes this