

TOTAL TWENTY-YEAR COSTS (PV, 7%)

	Nationwide	Chicago	Rest of nation
Maximum Horn Sound Level	\$2,902,478	(2)	(2)
Relocations Due to Horn Noise ¹	1,724,590	\$47,927	\$1,676,663
Establish/Maintain Pre-Rule Quiet Zones	15,275,946	4,008,013	11,267,933
Establish/Maintain New Quiet Zones	21,501,796	(2)	(2)
FRA Administrative Costs	25,426	(2)	(2)

¹ Due to resumption of horn sounding.² Not applicable.

Total Twenty-Year Costs associated with implementation of this rule are estimated to be \$41,430,236 (PV, 20 Years, 7%).

In general there has been a downward trend in collisions at grade crossings nationwide due to the implementation of various private and public safety initiatives such as Operation Lifesaver and other public education and awareness campaigns. Costs presented in this analysis may be overstated to the extent that such initiatives would lead to the eventual implementation of some of the same or equivalent safety measures that this rule requires for the

establishment of quiet zones. In such cases, this rule may be merely accelerating implementation and the rate of expenditures.

The direct safety benefit of this interim final rule is the reduction in casualties that result from collisions between trains and highway users at public at-grade highway-rail crossings. Implementation of this rule will ensure that (1) locomotive horns are sounded to warn highway users of approaching trains; or (2) rail corridors where train horns do not sound will have a level of risk that is no higher than the average risk level at gated crossings nationwide

where locomotive horns are sounded regularly; or (3) the effectiveness of horns is compensated for in rail corridors where train horns do not sound.

FRA has reviewed trends in collision rates for whistle ban crossings going back to 1980 and believes that collision rates over the twenty-years that this analysis covers will be no higher than 4 percent. The following table presents anticipated twenty-year safety benefits expressed in monetary terms assuming that collisions decline at an average rate of 4 percent annually and using a 7 percent discount rate.

TOTAL TWENTY-YEAR SAFETY BENEFITS MONETIZED (PV, 7%)

[Declining collision rate (4% annual decline)]

Casualties prevented	Nationwide	Chicago	Rest of nation
Cancellation of W-Bans	\$6,102,371	\$291,582	\$5,810,789
Pre-Rule Quiet Zones:	48,794,232	22,371,706	26,422,526
New Quiet Zones	21,976,553	(1)	(1)
Total	76,873,156	(1)	(1)

¹ Not applicable.

In terms of collisions and casualties, over the next twenty years, FRA anticipates implementation of this rule will result in the prevention of 123 collisions, 13 fatalities, and 60 injuries.

In addition to the prevention of casualties, FRA estimates that, over the next twenty years, this collision prevention will result in a reduction of approximately \$400,000 in highway vehicle, railroad equipment, and track damage.

This analysis covers the first twenty years of the rule and includes some compliance costs that will be incurred towards the end of the period. Unlike the benefits associated with costs incurred in the early years of the rule, much of the twenty-year stream of benefits associated with these costs is not captured in this analysis. Safety benefits are understated to the extent that many years of safety benefits resulting from safety measures implemented in out-years are not included.

Some of the unquantified benefits of this interim final rule include reductions in freight and passenger train delays, both of which can be very significant when grade crossing collisions occur, and collision investigation efforts. Although these benefits are not quantified in this analysis, their monetary value is significant.

Because such events are rare, FRA has not attempted to estimate the value of avoiding events in which a highway-rail collision results in a derailment, with harm to persons on the train or release of hazardous materials into the community.

Maximum horn sound level requirements will limit community disruption by not allowing horns to be sounded any louder than necessary to provide motorists with adequate warning of a train's approach. The benefit in noise reduction due to this change in maximum horn loudness is not readily quantifiable.

Another unquantified benefit of this rule is elimination of some locomotive horn noise disruption to some railroad employees and those who may reside near industrial areas served by railroads. Locomotive horns will no longer have to be sounded at individual highway-rail grade crossings at which the maximum authorized operating speed for that segment of track is 15 miles per hour or less and properly equipped flaggers (as defined in by 49 CFR 234.5, but who for purposes of this rule can also be crew members) provide warning to motorists. This rule will allow engineers, who were probably already exercising some level of discretion as to the duration and sound level of locomotive horn sounding, to stop sounding the horn under these circumstances at no additional cost.

This analysis does not quantify the benefit of eliminating community disruption caused by the sounding of train horns, nor does it quantify costs from increased noise at crossings where