

horns will sound where they were previously silent.

In an effort to determine the costs to a community associated with the locomotive horn, FRA examined the effects of sounding of locomotive horns on property values. This effort was based on the assumption that property values reflect concerns of property owners that are often subjective and otherwise difficult to quantify. For a full discussion of the effects of sounding locomotive horns on property values, see Appendix A to the Regulatory Evaluation.

Research shows that residential property markets are influenced by a variety of factors including structural features of the property, local fiscal conditions, and neighborhood characteristics. Hedonic housing price models treat a property as a bundle of characteristics, with each individual characteristic generating an influence on the price of the property. For example, additional structural characteristics such as bathrooms, bedrooms, interior or exterior square footage increase the value of residential properties. Likewise, neighborhood characteristics are expected to influence property prices. For example, homes that are in relatively close proximity to noxious activities such as hazardous waste sites, incinerators, etc. have been shown to have lower values, other things equal. Thus, a carefully designed hedonic model can be used to implicitly value locational attributes that have no explicit market price.

The effects of the sounding of locomotive horns on property values have been studied recently in response to the NPRM. While initial results are available, unfortunately they are not conclusive. David E. Clark performed one study for the FRA, and Schwieterman and Baden of the Chaddick Institute performed the other. According to Clark, the study performed for FRA was "just a first step in understanding how train whistles influence local property values." Schwieterman and Baden of the Chaddick Institute emphasize that their "report is a preliminary assessment of a complex issue. Some of our findings are speculative in nature." Those who have studied the issue agree that further study is needed to reach a better understanding of the true effects of locomotive horn sounding on property values. Clark concluded that there is little indication that the decision of a railroad to ignore whistle bans (and thus sound the locomotive horn) had any permanent and appreciable influence on the housing values in the three communities analyzed. Clark offers two

explanations for the lack of effect on property values. First, those buying property within the audible range of a highway-rail grade crossing likely consider the possibility that train whistles may be sounded at the crossing in the future. Second, the railroad's action generated dynamic changes in the composition of residents that served to mitigate the initial impact of the action. Residents most sensitive to the sounding of locomotive horns moved away and were replaced with those less sensitive to such sounding.

The Chaddick Institute study evaluated the probable costs of the noise generated by locomotive horns at grade crossings in the Chicago area. The study concluded that the region would experience significant losses in property value from sounding of horns at crossings currently subject to whistle bans. The study also concluded that even if property values do not fall, homeowners that are forced to move away may incur other real economic costs. For the reasons discussed in Appendix A to the Regulatory Evaluation, FRA has concluded that it is not likely that the overall costs associated with sounding the horns where they are not currently sounded will be as high as the Chaddick Institute study concludes.

Although there are airport and highway hedonic property value studies, FRA has not applied them to grade crossings for a number of reasons. The types of noise experienced by residents near highways and airports can be different from that experienced by residents near highway-rail grade crossings. Highways and airports where noise is an issue have higher daily volumes of motor vehicle and aircraft traffic than grade crossings with whistle bans. The noise produced by locomotive horns at crossings is also generally more intermittent than that produced at airports and highways.

The effect of highways and airports on nearby property values can also be very different than that of highway-rail at-grade crossings on nearby property values. For instance, airports are a source of employment for residents in the community. Although airport employees may not desire to reside in properties immediately adjacent to airports, they probably want to reside relatively close by. Few highway users desire to reside in properties immediately adjacent to highways, however many probably want to reside close enough to have easy access to highways. Such situations may greatly influence the magnitude of difference between property values of residences immediately adjacent to highways and

airports compared to property values of residences that are still very close to highways and airports yet not adjacent. Since there generally is no incentive to residing near highway-rail at-grade crossings (unless there happens to be a commuter rail station nearby) the difference in property values between residences immediately adjacent to grade crossings and those a little further away is probably not as great.

Studies of airport and highway noise compare property values of residences adjacent to the source of noise to property values of residences that are near but not adjacent to the source of noise. To isolate the effect of the noise itself and thereby make these studies more relevant to the highway-rail grade crossing context, the effect of the incentive for residing nearby, versus adjacent to, would have to be removed from the studies of airport and highway noise. Given the differences in (1) types of noise produced by highway vehicles and aircraft versus locomotive horns and (2) effects of highways and airports on nearby property values versus effects of grade crossings on property values, FRA believes that results from hedonic studies of airport and highway noises on property values are not directly transferable to locomotive horn noise effects on property values.

It is important to note that since this rule is permissive as to the establishment of quiet zones, communities will establish quiet zones to the extent that the perceived benefit of elimination of the train horn disruption coupled with the safety benefit of any safety enhancements exceeds the costs of compliance associated with the requirements for establishing New Quiet Zones.

FRA is confident that the benefits in terms of lives saved and injuries prevented will exceed the costs imposed on society by this rule.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*) requires a review of final rules to assess their impact on small entities unless the Secretary certifies that a final rule will not have a significant economic impact on a substantial number of small entities. Data available to FRA indicates that this rule may have minimal economic impact on a substantial number of small entities (railroads) and possibly a significant economic impact on a few small entities (government jurisdictions and small businesses). However, there is no indication that this rule will have a significant economic impact on a substantial number of small entities. The Small Business Administration