

the gates are activated. In this respect, one way streets with gates functions like four quadrant gates without medians, and FRA estimates an effectiveness rate of 82 percent.

Appendix B—Alternative Safety Measures

Introduction

Section 222.39(b) provides that a public authority may apply to FRA for approval of a quiet zone that does not meet the standards for public authority designation under § 222.39(a). Under § 222.39(b) a quiet zone application may be presented to FRA for consideration. Public authority application provides two unique benefits towards the creation of a quiet zone. The first benefit is the ability to use SSMs that may not conform to all of the requirements in Appendix A. FRA received many comments indicating that traffic channelization would not be practical due to parallel roadways that were closer than 60 feet. Under Appendix B, short traffic channelization devices may be considered. The second benefit is the ability to use programmed law enforcement, public education and awareness programs and photo enforcement to reduce risk and to compensate for the loss of the train horn. A public authority must receive written FRA approval of its quiet zone application prior to the silencing of train horns.

As with quiet zones created using the public authority designation method, credit will be given for closing of public highway-rail grade crossings. It will be necessary to adjust the baseline severity risk index at other crossings by increasing traffic counts at neighboring crossings as input data to the severity risk formula. If nearby grade separations are expected to carry some or all of the traffic, it will not be necessary. FRA Regional Managers for Grade Crossing Safety will be available to assist in performing the required analysis.

Appendix B addresses two types of ASMs—modified SSMs and non-engineering ASMs. Modified SSMs are SSMs that do not fully comply with the provisions listed in Appendix A. Depending on the resulting configuration, modified SSMs may still provide a substantial reduction in risk and can contribute to the creation of quiet zones. Non-engineering ASMs are programmed law enforcement, public education and awareness programs; and photo enforcement efforts that may be used to reduce risk in the creation of a quiet zone. It should be noted that if non-engineering ASMs are proposed, the application must demonstrate their

effectiveness through the collection and analysis of data collected at the crossings. Periodic monitoring will be required throughout the existence of the quiet zone in order to show that the ASM is still effective. The public authority must receive written FRA approval of the quiet zone application prior to the silencing of train horns. The public authority is strongly encouraged to submit the application to FRA for review and comment before the Appendix B treatments are initiated to ensure that the proposed modified SSMs and/or non-engineering ASMs will meet with FRA's approval. If non-engineering ASMs are proposed, the public authority may wish to confirm with FRA that the sampling methods are appropriate. Submitting the application for review prior to implementation will enable FRA to provide comments to assist the public authority in developing a quiet zone plan that will be acceptable.

Modified SSMs

a. If there are unique circumstances pertaining to a specific crossing or number of crossings which prevent the SSMs from being fully compliant with all of the SSM requirements listed in Appendix A, those SSM requirements may be adjusted or revised. In that case, the SSM, as modified, will be treated as an ASM under this Appendix B, and not as a SSM under Appendix A, so that its safety effects may be evaluated. By using modified SSMs, a locality will be able to tailor the use and application of various SSM-types of applications to a specific set of circumstances (e.g. being able to use traffic channelization devices of less than 60 feet in length). Thus, a locality may propose a quiet zone that contains modified SSMs at a number of crossings, that due to specific circumstances, could not have been treated with an Appendix A SSM and would have to be omitted from the proposed quiet zone. FRA will review the proposed quiet zone, and will approve the proposal if it finds that the Quiet Zone Risk Index is reduced to the level that would be expected with sounding of the train horns or to the Nationwide Significant Risk Threshold.

b. Estimates of effectiveness may be proposed based upon adjustments from the effectiveness levels provided in Appendix A or from actual field data derived from the crossing sites. The application should provide an estimate for the effectiveness of the proposed ASM and the rationale for the estimate. For example, in Appendix A the effectiveness of a 60 foot traffic channelization device is .75. A public authority may propose for consideration

that an effectiveness rate of .60 for a traffic channelization device that is 45 feet in length would be appropriate. The specific crossing and applied mitigation measure will be assessed to determine the effectiveness of the modified SSM. FRA will continue to develop and make available effectiveness estimates and data from actual experience under the rule.

c. The following engineering types of ASMs may be included in a proposal for approval by FRA for creation of a quiet zone. SSMs that are listed in Appendix A may be used for purposes of modified SSMs. If one or more of the requirements associated with an SSM as listed in Appendix A is revised or deleted, data or analysis supporting the revision or deletion must be provided to FRA for review. These SSMs include: (1) Temporary Closure of a Public Highway-Rail Grade Crossing, (2) Four-Quadrant Gate System, (3) Gates With Medians or Channelization Devices, and (4) One-Way Street With Gate(s). A discussion of these safety measures may be found in the discussion of Appendix A.

Non-Engineering ASMs

The following non-engineering ASMs may be used in the creation of a Quiet Zone. The method for determining the effectiveness of the non-engineering ASMs, the implementation of the quiet zone, subsequent monitoring requirements, and provision for dealing with an unacceptable effectiveness rate are provided in paragraph b.

1. *Programmed Enforcement:* Community and law enforcement officials commit to a systematic and measurable crossing monitoring and traffic law enforcement program at the public highway-rail grade crossing, alone or in combination with the Public Education and Awareness option.

Required:

a. Subject to audit, a statistically valid baseline violation rate must be established through automated or systematic manual monitoring or sampling at the subject crossing(s).

b. A law enforcement effort must be defined, established and continued along with continual or regular monitoring.

2. *Public Education and Awareness:* Conduct, alone or in combination with programmed law enforcement, a program of public education and awareness directed at motor vehicle drivers, pedestrians and residents near the railroad to emphasize the risks associated with public highway-rail grade crossings and applicable requirements of state and local traffic laws at those crossings.