

explicit that “tubular markers” and “vertical panels” as described in sections 6F.57 and 6F.58, respectively, of the MUTCD, are acceptable channelization devices for purposes of this part. This change is consistent with a comment submitted by Winter Park, Colorado in which the community requested more flexibility in the definition/design of channelization devices.

“Crossing Corridor Risk Index” is a number reflecting the relative risk to motorists at grade crossings within a grade crossing corridor in which locomotive horns are routinely sounded. This number is derived by calculating the number of predicted collisions per year at each public grade crossing within a corridor of crossings. A risk index reflecting the predicted likelihood and severity of casualties resulting from those collisions for each crossing is then calculated. An average risk index for the entire group of crossings within the corridor is then calculated (by summing the risk index for each crossing and dividing the total by the number of crossings within the corridor). This average risk is the Crossing Corridor Risk Index. It reflects the present risk associated with a crossing corridor, before the level of risk changes due to silencing of locomotive horns or implementation of SSMs or ASMs. Details on determining the Crossing Corridor Risk Index are provided in Appendix D of this part.

“Diagnostic team” means a group of knowledgeable representatives of parties in interest in a highway-rail grade crossing, organized by the public authority responsible for, or funding improvements at, the crossing, who, using crossing safety management principles, evaluate conditions at a grade crossing to make determinations and recommendations for the public authority concerning safety needs at that crossing. A diagnostic team can consist of the local traffic or highway engineer, and representatives of various parties including the local public works department, the railroad whose tracks are crossed, the State department of transportation, local law enforcement, and emergency responders. The diagnostic team, ideally having representatives of major interested parties, can evaluate a crossing from many perspectives and can make recommendations as to the safety needs at the crossing.

“Effectiveness rate” is a number which indicates the effectiveness of a safety measure in reducing the probability of a collision at a public highway-rail grade crossing. Effectiveness rate is defined as a number

between zero and one which represents the reduction of the probability of a collision at a public highway-rail grade crossing as a result of the installation of a safety measure when compared to the same crossing equipped only with conventional gates and lights. An effectiveness rate of zero indicates that the safety measure provides no reduction in the probability of collision. The safety measure is not effective at all. At the other extreme, a safety measure of one indicates that the safety measure is totally effective in reducing collisions. Grade separation would fall into the latter category—separating railroad tracks from the roadway is totally effective in reducing grade crossing collisions. Values between zero and one reflect the percentage by which the safety measure reduces the probability of a collision. For example, if a safety measure has an effectiveness rate of .75, it reduces the probability of a collision at the crossing by 75 percent. Conversely, if a safety measure has only an effectiveness rate of .05, it would reduce the probability of a collision by only 5 percent.

The few comments FRA received on this topic were negative. The Illinois Commerce Commission, while not objecting to the definition itself or concept, complained that the “ratios are arbitrary guesses which have little empirical value.” The CPUC similarly felt that there are insufficient data to assign effectiveness rates. They stated that instead “[t]he effectiveness of an SSM \* \* \* should be evaluated by the applicant, the railroad, and the regulating state agency for each individual crossing in a quiet zone.”

FRA recognizes that, to the extent effectiveness estimates have been derived from limited data, they should not be treated as sacrosanct. Further, individual crossing characteristics may be more or less compatible with realizing the benefits of particular safety measures. Accordingly, the concept of alternative safety measures is incorporated into this rule with the expectation that diagnostic teams will be able to estimate effectiveness with a higher degree of refinement, working (as relevant) from the benchmark levels provided for supplementary safety measures. The expertise available at the State level will contribute to this process of refinement. On the other hand, FRA is not comfortable with the idea of proceeding without benchmark values. Far from being arbitrary guesses, the benchmark values take into consideration and reflect substantial information available at the national level, and they have been exposed to the scrutiny of public comments in this

proceeding. Since they are conservative in nature, reliance upon them in the context of application of SSMs to all crossings in a quiet zone should be entirely appropriate in virtually every case. The individual judgments of local public authorities or State level officials cannot be assumed, *a priori*, to be superior to these benchmarks, particularly where the personnel involved have no experience in the use of particular safety measures (many of which are new to the realm of highway-rail crossing safety).<sup>12</sup> Balancing these concerns, FRA has attempted to craft a structure that fosters consistency while inviting attention to project-specific considerations and enabling the use of professional engineering judgment where warranted.

“FRA” means the Federal Railroad Administration.

“Grade Crossing Inventory Form” means the U.S. DOT National Highway-Rail Grade Crossing Inventory Form, FRA Form F6180.71. This form is available through the FRA’s Office of Safety, or on FRA’s Web site at <http://www.fra.dot.gov>.

“Locomotive” means a piece of on-track equipment other than hi-rail, specialized maintenance, or other similar equipment—(1) With one or more propelling motors designed from moving other equipment; (2) with one or more propelling motors designed to carry freight or passenger traffic or both; or (3) without propelling motors but with one or more control stands. This definition is being added as a result of a suggestion from the AAR.

“Locomotive horn” means a locomotive air horn, steam whistle, or similar audible warning device mounted on a locomotive or control cab car. The terms “locomotive horn”, “train whistle”, “locomotive whistle”, and “train horn” are used interchangeably by many people to denote the audible warning device mounted on a locomotive or control cab car.

“Median” means the portion of a divided highway separating the travel ways for traffic in opposite directions.

“MUTCD” means the Manual on Uniform Traffic Control Devices issued by the Federal Highway Administration.

“Nationwide Significant Risk Threshold” means a number, calculated on a nationwide basis, which reflects the average level of risk at public

<sup>12</sup> See Report to Congress entitled *North Carolina “Sealed Corridor” Phase I U.S. DOT Assessment Report* (FRA Office of Railroad Development, September 2001), which describes most of the pioneering work undertaken by the State of North Carolina and the Norfolk Southern Railroad (with FRA funding assistance) in support of the State’s high-speed rail program.