ABSTRACT

The City of Ames, Iowa, is investigating options to minimize the impacts of train horn noise throughout the community. The Quiet Zone Final Rule, issued by the Federal Railroad Administration (FRA) in June 2005, offers an opportunity for cities to accomplish this objective. The Ames Quiet Zone Assessment analyzed the current safety risk levels and the necessary safety measures required to compensate for horn cessation if a federally approved quiet zone were established.

The City of Ames has two separate rail lines within the city, requiring the 12 at-grade crossings to be evaluated as two separate quiet zones (east/west and north/south). There are six crossings in each potential quiet zone. Based on the analysis performed, the following recommendations are made for City Council’s consideration.

East/West Quiet Zone

The east/west railway line runs through downtown Ames and carries approximately 66 trains per day at speeds of up to 60 miles per hour. All of the crossings along the east/west rail line are currently equipped with the minimum quiet zone requirements, thus qualifying the entire corridor as quiet zone eligible. As part of a separate Iowa Department of Transportation project, four-quadrant vehicle gates will be installed at the Duff Avenue crossing in 2007. In addition to the Duff Avenue improvement, by extending both the north and south medians at Scholl Road six ft., to within one ft. of the existing two-quadrant vehicle gate arms, the quiet zone risk index (QZRI) for the east/west line falls below the risk index with horns (RIWH). By lowering the QZRI below the RIWH, the east/west quiet zone would be deemed to be as safe as if the train horns were still sounding.

North/South Quiet Zone

Before determining a course of action for establishing a north/south quiet zone, three questions needed to be answered by the City Council. (1) What is the desired risk level that the city would like to achieve along this rail line? (2) How much of a financial commitment is the city willing to make along this rail line? (3) Are crossing closures an acceptable method to improve safety and reduce cost? After answering these questions, SRF Consulting Group, Inc. created six scenarios for establishing a quiet zone along this rail line.

City Council Meeting Results

Staff from SRF Consulting Group, Inc. presented the Quiet Zone Assessment Report to the Ames City Council on December 12, 2006, highlighting the improvements necessary to obtain a quiet zone on both
the east/west rail line and the north/south rail line. At the following City Council meeting on December 19, 2006, the City Council unanimously decided to move forward with the implementation of an east/west quiet zone, which includes the following improvements:

- Installation of four-quadrant vehicle gates at the Duff Avenue crossing
- Extension of the existing medians at the Scholl Avenue crossing to within one ft. of the existing gate arms
- Extension of the south median at the North Hazel Avenue crossing to within one ft. of the existing gate arm, removal of the abandoned railroad track, and reconstruction of that section of roadway
- Extension of both existing medians to within one ft. of the existing gate arms at the North Dakota Avenue crossing

At the same meeting, the City Council also directed staff to move forward on the north/south quiet zone, which includes the planned construction of nontraversable medians and constant warning time at Bloomington Road, as well as the creation of a plan to fund the minimum quiet zone requirements (i.e., two-quadrant vehicle gates and constant warning time detection) needed at the 9th and 16th Street crossings.

For the City Council to establish a quiet zone (or zones), a number of implementation activities would be required. The first step is preparing the Quiet Zone Notice of Intent and distributing it to the necessary stakeholders. Following implementation of improvements, a Notice of Quiet Zone Establishment must be filed with the FRA to finalize the quiet zone process. This filing process will be relatively quick and easy, since the assessment process has produced most of the data and information required. Along with these requirements, the City of Ames will also need to install Manual on Uniform Traffic Control Devices (MUTCD)—compliant advanced warning signs, advising motorists that “train horns are not sounded” at the designated crossings.

For copies of the Ames Quiet Zone Assessment Study, please contact the City of Ames Public Works Department.

**Key words: Iowa—quiet zones—railroads—safety**