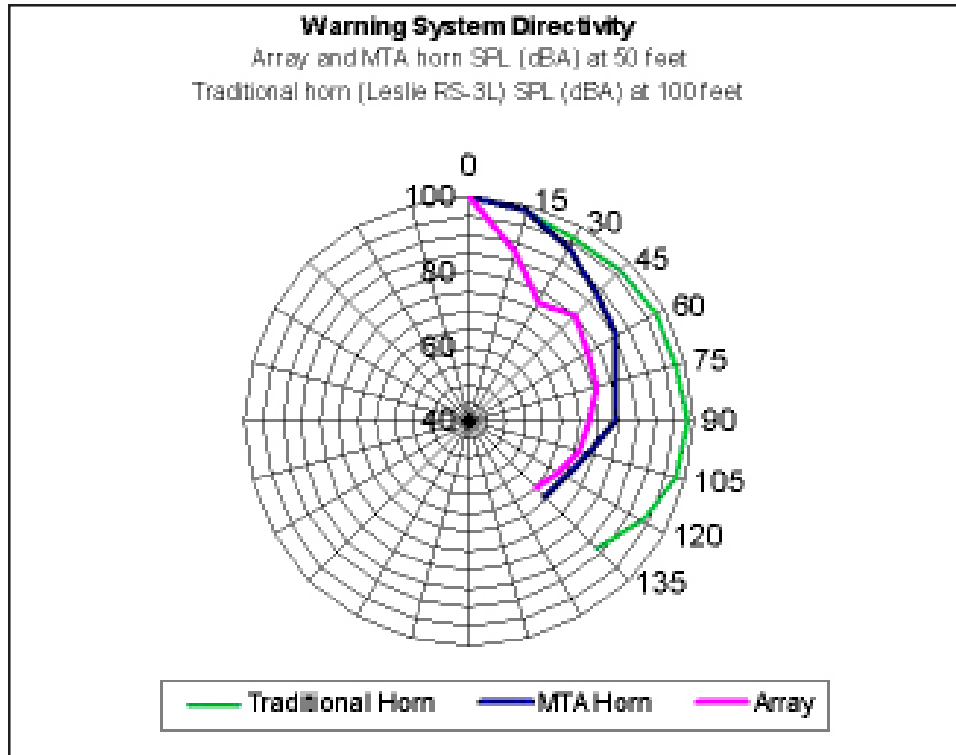


DIRECTIVE TRAIN HORN



PROJECT DESCRIPTION

The Los Angeles County Metropolitan Transportation Authority (MTA) contracted Acentech to develop, fabricate, and test an acoustically directive warning device for potential use on its trains. The research goal was to demonstrate an acoustically directive horn that could provide adequate warning at rail-highway grade crossings while reducing noise in the immediate community.

Acentech developed and tested a ten-speaker acoustic array system. We performed laboratory and field tests, which indicated that community noise levels could be reduced by 10 to 15 decibels near grade crossings and nearby homes using this directive array, relative to the system currently in use on MTA Gold Line trains. This noise reduction would be perceived as the loudness having been reduced by half.

While the system was designed, tested, and evaluated relative to the Gold Line's existing warning horn, the potential success of this project may have much wider implications. This demonstration could be a first step to help reduce grade crossing noise impacts for all types of rail systems -- passenger and freight. This is particularly the case in light of the pending Federal legislation which would require all rail operators to start sounding horns at all public grade crossings unless officially designated as a "Quiet Zone."

Acentech

CONSULTING SERVICES

- Warning system design and fabrication
- Laboratory and field acoustical measurements
- Data analysis
- Performance predictions

REFERENCE

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