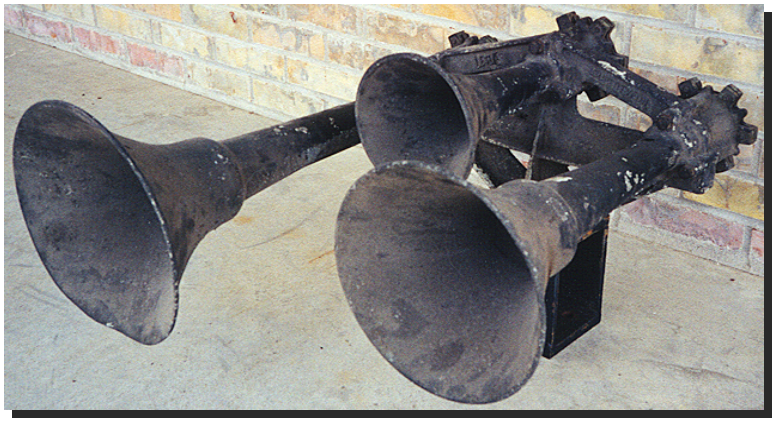
Acoustic Warning Device Evaluation



Project Description:
Acoustic warning devices truly pose a three-horned dilemma: a device must be capable of alerting motorists to the train's approach, not annoy residents, and not damage train crew hearing. This project examines new technology, such as hypersound, that might be able to resolve this dilema and the combination of acoustic characteristics that might be manipulated to achieve an effective warning that does not annoy or damage crew hearing. This project is examining the spectral characteristics of devices, timing and duration of sound and no-sound intervals, etc., to improve device effectiveness.

Railroad Impact:
Current train horn acoustic characteristics are based on tradition (grade crossing warning is a sequence of long, long, short long pulses) and old technology (limited ability to change any parameter but sound intensity). This project will reduce grade crossing accidents by improving the ability of motorists to hear and recognize an approaching hazard through new technology while reducing community annoyance and train crew hearing loss.

FRA Task Monitor: Tom Raslear, RDV32

Schedule:

- **FY07 - 08 –** Report on laboratory studies of perceived urgency
- **FY08 - 09** – Report on hypersound, other new technologies. Design optimal acoustic warning device