### ASCENT COE Notice of Funding Opportunity (COE-2016-47)

**Project Title**: Background Noise Evaluation

**FAA Project Manager**: Mehmet Marsan (mehmet.marsan@faa.gov)

**Nominal Funding Level**: $50,000

**Period of Performance**: One year

**Deadline for notice of Funding Opportunity**: April 15, 2016

**Project Description**

The objective of this research project is to improve our understanding of influence of ambient and background noise on public perception to aircraft noise. In this NFO *Ambient* means environmental noise without any identifiable man made source, and *Background* means any noise other than aircraft noise of interest.

Fields (1998) found no evidence that background noise level has a strong or important effect on reactions to a noise source. This conclusion is derived from meta-analysis of survey data. Only a small amount of evidence was available at that time about reactions in rural areas. Since that time additional studies have been conducted overseas with varying results.

However, attitudes towards aircraft noise may have changed. If overseas research is a good indicator, data from the ongoing community noise survey would be very likely to provide strong evidence on the effect of background noise (e.g., road traffic) on reactions to aircraft noise. It may also be possible to compare reactions to distant aircraft noise in remote suburban and urban environments (i.e., different ambient noise levels).

The purposes of this research are to answer to the following questions using existing data sources. An updated meta-analysis of background/ambient noise studies could also be conducted which would also include an attempt to locate information about reactions in rural areas.

1. Is there a relationship between the Dose-Response (as measured in annoyance as a function of noise exposure, i.e., Schultz curve), and background noise? If there is a relationship, should there be a consideration of background noise when considering the threshold (i.e., DNL 65 dB) and level of significance (1.5 dBA change)?
2. Are there differences between responses to aircraft noise in low ambient noise vs high ambient noise environments?

Responses received before April 15, 2016 will be evaluated and a team of universities or organizations, one of which will be identified as leading the coordinated effort, will be requested to provide a full-length proposal for further evaluation and possible funding to carry out the work.