



An Alternative Revealed Preference Approach for Valuing Traffic Noise Indoors: using *ex ante* and *ex post* choices of apartments

Elisabete ARSENIO¹,

Abigail L. BRISTOW², Mark R. WARDMAN³

¹LNEC I.P. | Transportation Department, Av. do Brasil 101, 100-066 Lisboa Portugal

²Loughborough University, UK

³Institute for Transport Studies, University of Leeds, UK

Category of Paper:

Invited Paper for TT 29: COST AND BENEFITS OF NOISE CONTROL and SS 50 ECONOMIC VALUATION OF THE SOUND ENVIRONMENT.

ABSTRACT

The research reported in this paper is based on a hypothetical revealed preference experiment for valuing traffic noise nuisance as perceived in the interior of apartments located in Lisbon. The experiment used both the observed behavior of householders' apartment choices which are designated as the *ex ante* situation (i.e. before living in the apartment) and a hypothetical choice of apartments located in the same block/lot of the respondent but on a different façade or floor and thus varying in terms of noise exposure. This hypothetical choice occurs after respondents have experienced traffic related noise indoors. Thus addressing a criticism of hedonic pricing models that purchasers do not always have a good understanding of the noise levels they will experience.

Results from random parameters logit models indicate the importance of respondents' experience when valuing qualitative attributes such as traffic nuisance. Whereas in the *ex ante* situation quiet had been mentioned only by a small percentage of the respondents as the most important location factor, in the *ex post* situation the quiet coefficient was found to be a statistically significant one. Additionally, the marginal value of quiet for a household located at the quieter façade was around twice as high as for a household in an apartment fronting the main road.

Keywords: Economic Valuation, Revealed Preference, Traffic Noise.

¹ Elisabete.arsenio@lnec.pt

² A.L.Bristow@lboro.ac.uk

³ M.R.Wardman@its.leeds.ac.uk