



The Impact of Transient Noise Levels in London

Lisa Lavia
Noise Abatement Society

London Lorry Control Scheme Review - Operators Workshop

9 March 2017



- 1 Introduction to the NAS**
- 2 Noise is a Public Health Concern**
- 3 Defra: Noise Policy Statement for England**
- 4 Soundscape: Design Led Solutions Ensure Better Outcomes**

Lisa Lavia, Noise Abatement Society
London Lorry Control Scheme Review, Operators Workshop
9 March 2017

NAS – Championing Public Concerns

*Since 1959: UK's only NGO
dedicated solely to noise pollution
and soundscape education and
solutions*

National Noise Helpline

John Connell Awards

Love Your Ears™

Sounding Brighton

Launched Quiet Mark™

Silent Approach™

Soundscape Approach

@noise_abatement

www.noiseabatementociety.com





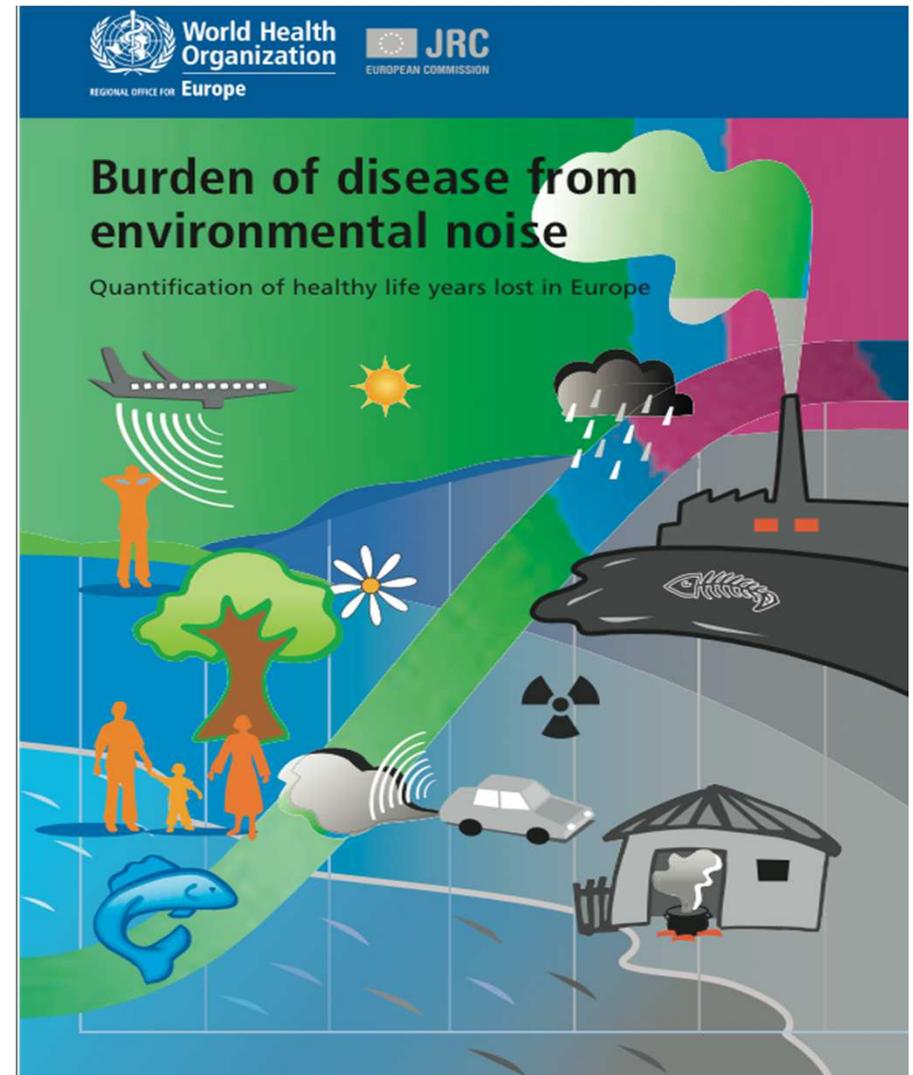
Noise is a Public Health Concern

London Lorry Control Scheme Review - Operators Workshop
9 March 2017

Noise - A Public Health Concern

*‘the **health impacts** of noise are a growing concern among both the general public and policymakers in Europe’*

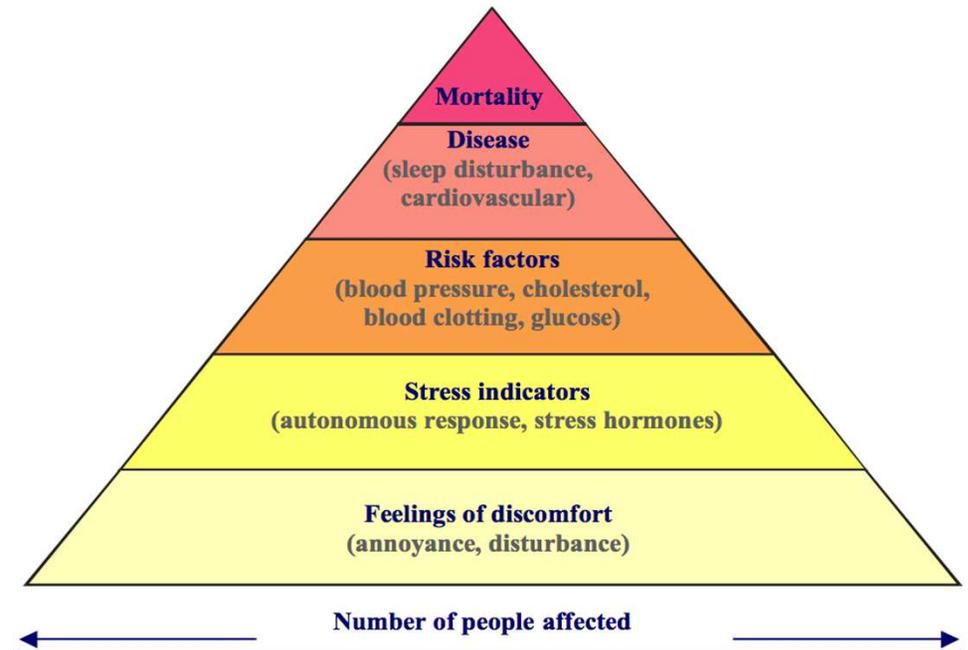
World Health Organization, 2011



Scale of the Problem: Does Noise Pollution Matter?

It's expensive and a threat to public health.

- 'At least **one million healthy life years are lost every year** from traffic related noise in western Europe.' *World Health Organisation, 2011*
- 'Noise pollution costs UK taxpayers £7 billion to £10 billion per annum: **the highest environmental cost following air pollution** at £16bn.' *Defra*



Source: Babisch (3).



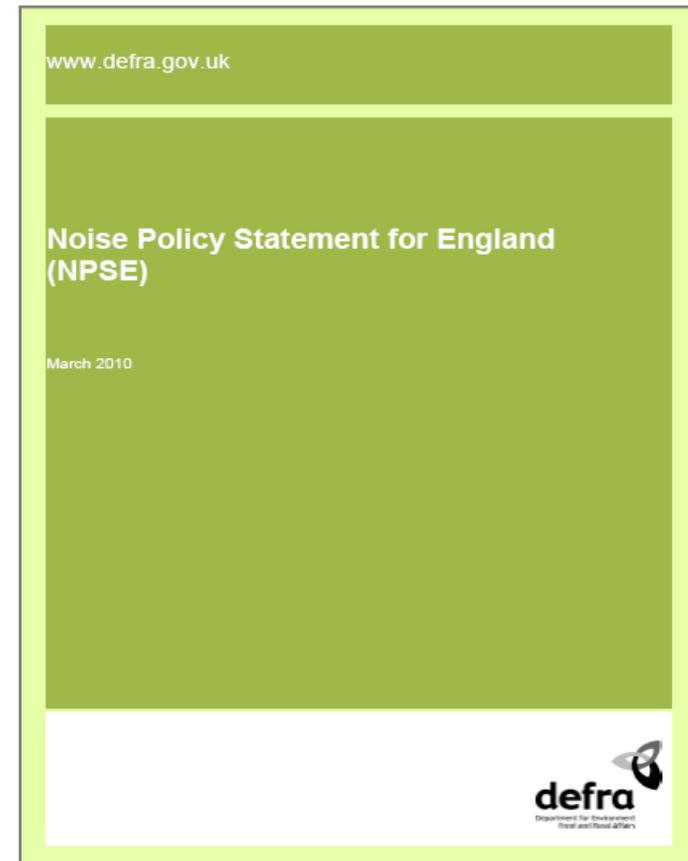
Defra: Noise Policy Statement for England

London Lorry Control Scheme Review - Operators Workshop
9 March 2017

UK Government's Policy on Noise

Noise Policy Statement for England Aims

- Promote good health and a good quality of life through the **effective management of noise within the context of Government policy on sustainable development.**
- **Avoid significant adverse impacts and mitigate and minimise adverse impacts** on health and quality of life from environmental, neighbour and neighbourhood noise
- Where possible, **contribute to the improvement of health and quality of life** through the effective management and control of environmental, neighbour and neighbourhood noise
- **“the effective management of noise requires a co-ordinated and long term approach that encompasses many aspects of modern society”** Source: Defra



UK Government's Policy on Noise

Applies concepts from toxicology to noise impacts

NOEL – No Observed Effect Level

- This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

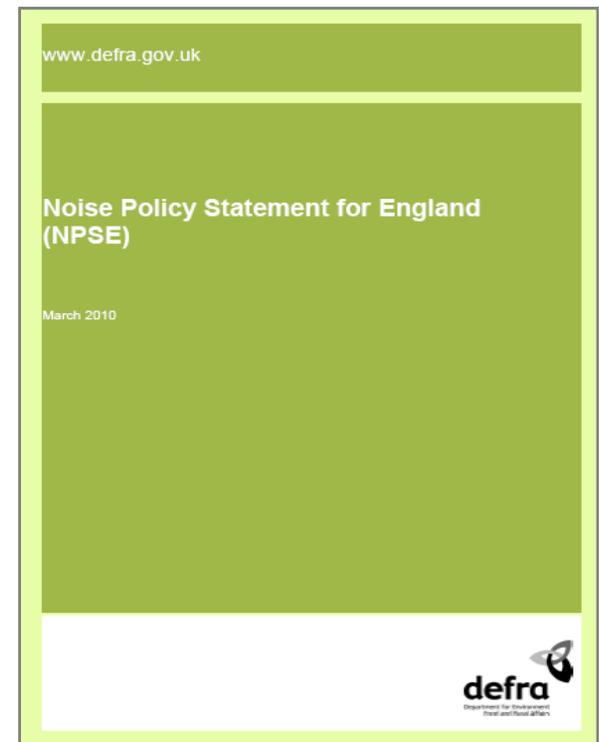
LOAEL – Lowest Observed Adverse Effect Level

- This is the level above which adverse effects on health and quality of life can be detected.

SOAEL – Significant Observed Adverse Effect Level

- This is the level above which significant adverse effects on health and quality of life occur.

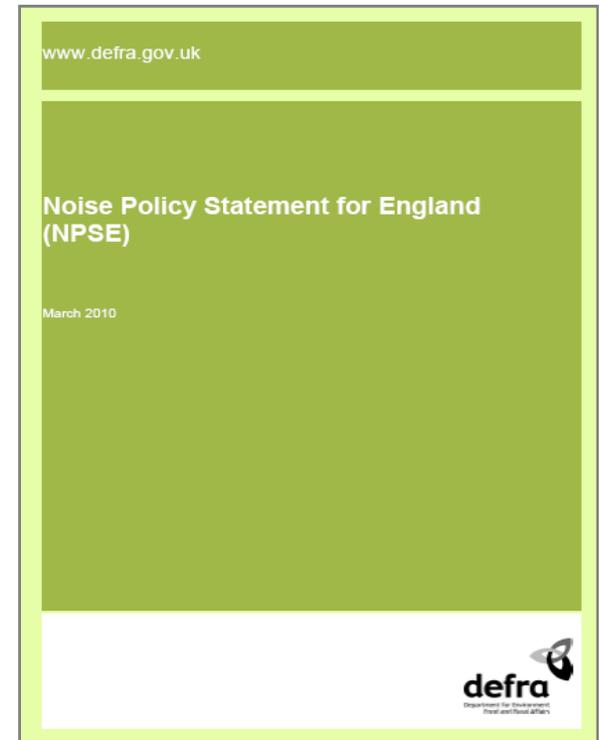
Source: Defra



UK Government's Policy on Noise

- *Not possible to have a single objective noise-based measure* ... applicable to all sources of noise in all situations.
- SOAEL is likely to be *different for different noise sources, for different receptors and at different times*.
- Further research needed regarding what may constitute a significant adverse impact on health and quality of life from noise.
- NPSE provides *necessary policy flexibility until further evidence and suitable guidance is available*.
- Decisions regarding statutory nuisance decided by LAs based on local context

Source: Defra





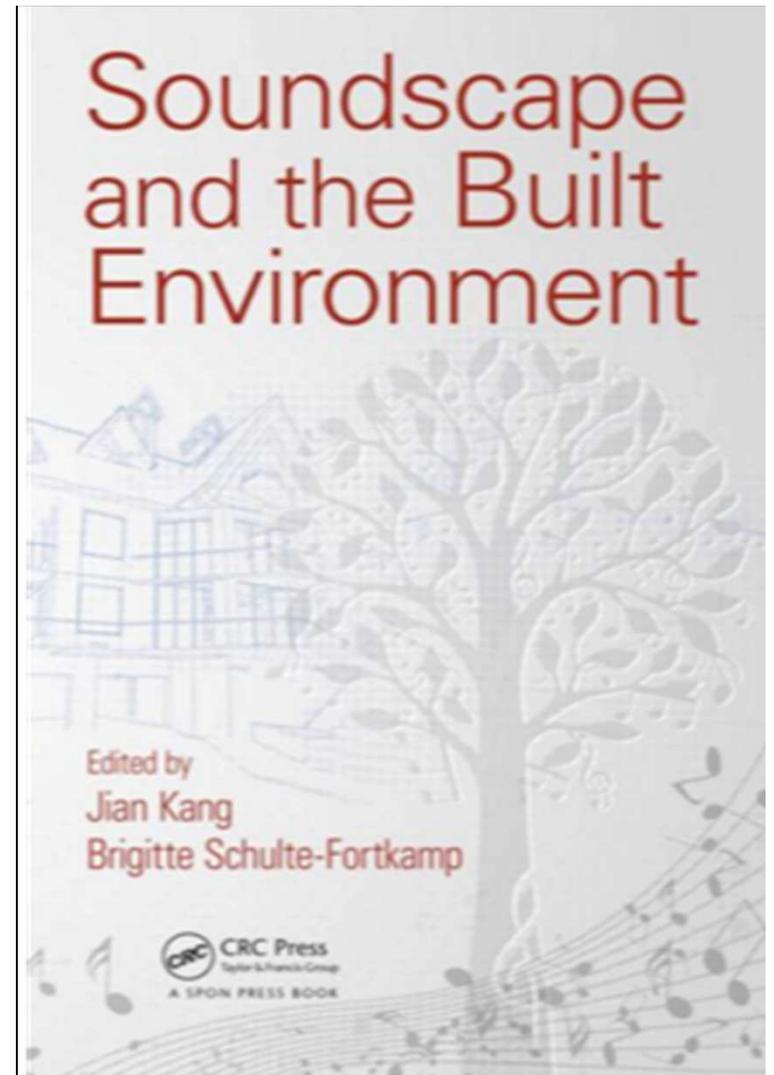
Soundscape: Design Led Solutions Ensure Better Outcomes

London Lorry Control Scheme Review - Operators Workshop
9 March 2017

Sound vs Noise - The Urban Design Challenge

*'The great challenge is not [just] to decrease the adverse health effects (in noisy areas), but to **create good and health promoting soundscapes.**'*

Professor Birgitta Berglund, Stockholm University,
ENNAH Conference, London, 2011



Soundscape* - How Humans Perceive Sound

- Defined as *'the acoustic environment as **perceived or experienced** and/or understood, by a person or people, in **context**'* (ISO 12913-1:2014)*
- Recognises **sound** as a **resource**, rather than noise as waste

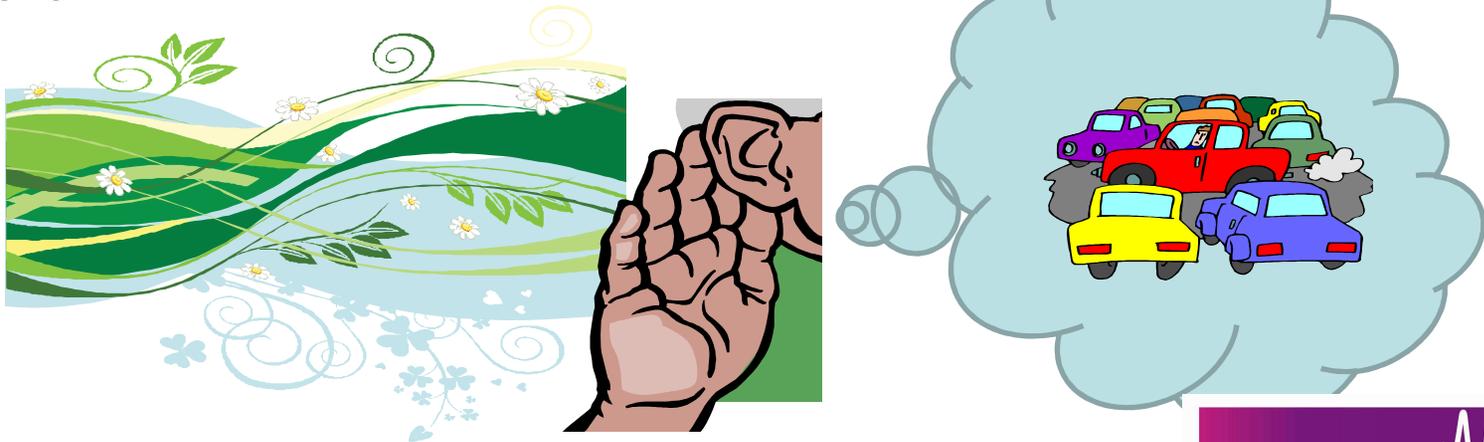
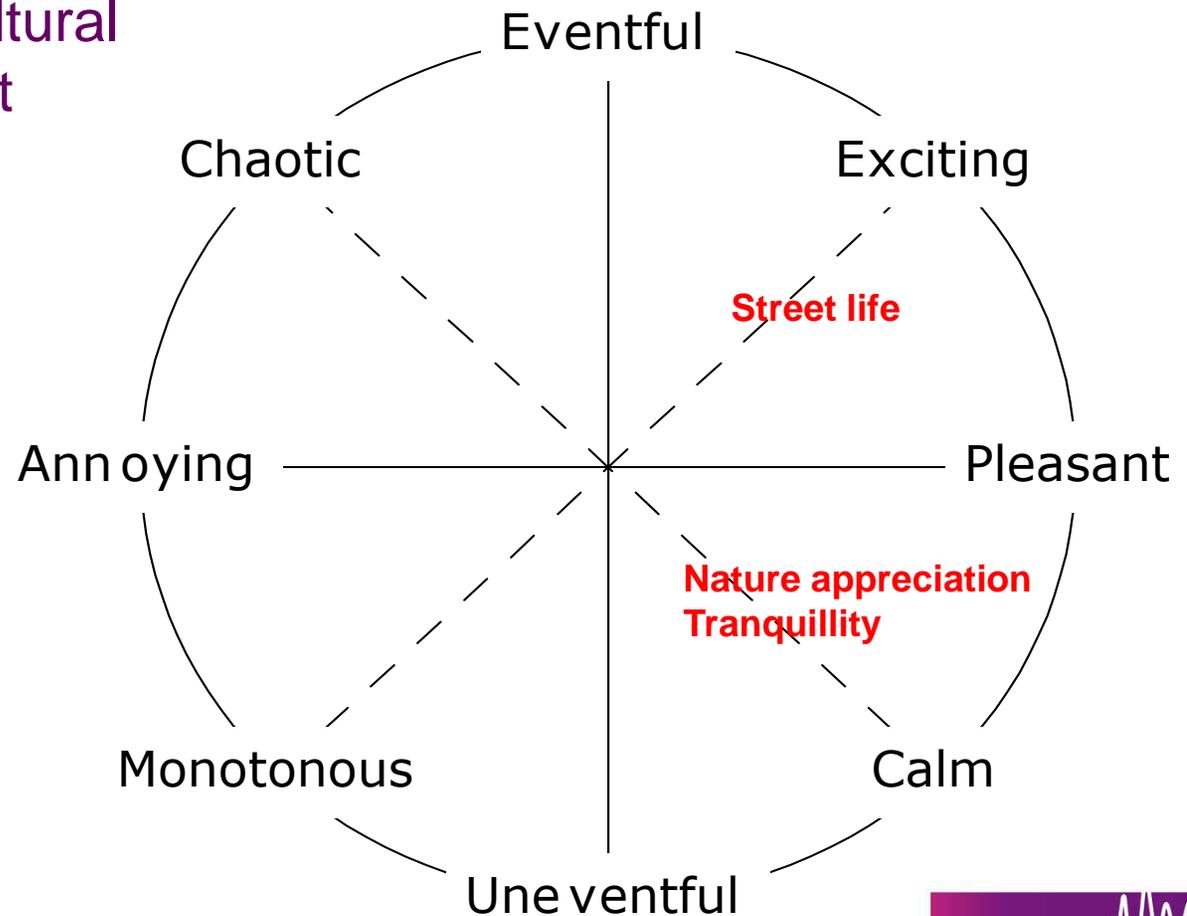


Image: courtesy of Dr Östen Axelsson, oan@psychology.su.se

Design in Social and Cultural Use Values* and Set Acoustic Objectives

Soundscape holistic design and management – using acoustic ‘shared space’ objectives based on context and use



** Based on sociotope mapping (“places for people”) - developed by the City of Stockholm Urban Planning Administration 2000 – 2002*

Tuning urban design - e.g. screening, reflection, absorption



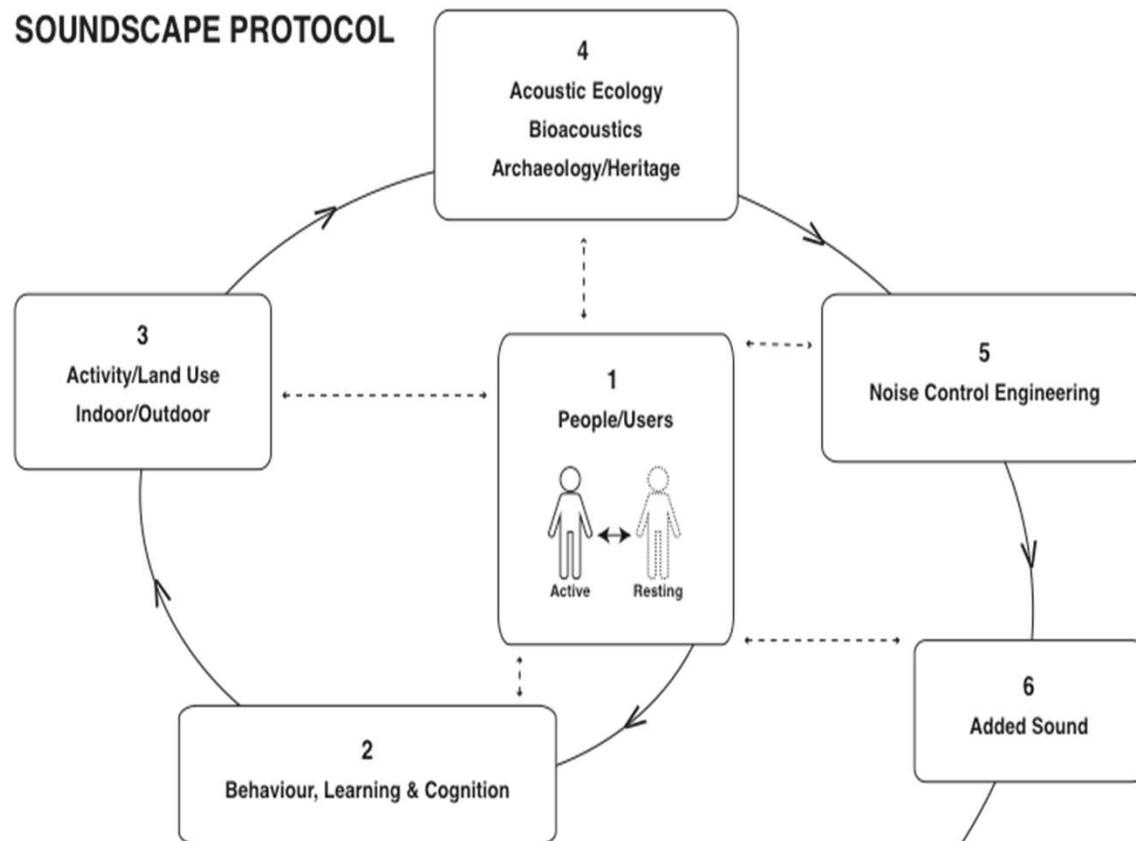
Community Engagement Soundscape Conceptual Model*

Soundscape management *must be in response to local characteristics and requirements*

Soundscape's *interdisciplinary approach helps communities with diverse "social use" profiles* where traditional approaches may not work/have failed

Intelligent, context-sensitive soundscape approaches provide *new options for designers and planners and better solutions*

SOUNDSCAPE PROTOCOL



• Lavia, L., Dixon, M., Witchel, H.J., Goldsmith, M., (2016). *Applied Soundscape Practices*. In J. Kang & B. Schulte-Fortkamp (Eds.), *Soundscape and the Built Environment*. London, UK: CRC Press.

Model - Original design by: Jorunn Hustoft for Noise Abatement Society

Soundscape Planning for Transportation

Removing noise as a barrier. Permission to grow.

- **24/7 window** 'permission to grow'
- **Quiet(er) vehicles & equipment**, refined operations, colleague training
- **Reduced carbon** emissions
- **Better air quality** and amenity
- Improved **road safety for cyclists** and vulnerable road users
- **Novel solutions, new metrics, new design principles** to allow concurrent activities at all times
- Crucial to meet **rapid urbanisation** trends & Night Time Economy growth





Thank You and Questions

Lisa Lavia

lisa.lavia@noise-abatement.org

London Lorry Control Scheme Review - Operators Workshop

9 March 2017