

## DRAFT – NOT POLICY

- **Example 1:** A town centre redevelopment, where there is an existing business and residential community, but significant changes to land use being proposed (perhaps away from offices towards denser residential and also more entertainment) – how to create a vibrant centre that is also a nice place to live.

### Introduction

**Town A** is a typical Welsh town. As such the local environmental, social and economic quality and prospects of the area need to adapt to trends in retail, housing and cultural offerings and preferences. Without which the town centre and high street will continue to face the blight of vacant units (i.e. from businesses that have closed), empty buildings and a desolate atmosphere.

After extensive consultation, the council and local residents of **Town A** agreed that regeneration of the town centre was crucial to improving the quality of life and wellbeing of residents, attracting and retaining visitors to the area and revitalising the local economy. To achieve these outcomes, the plan for the town centre was developed and all stakeholders agreed that the primary aims of the regeneration programme were to:

- create high quality affordable living spaces;
- improve the cultural offerings available to residents and visitors;
- create healthy work environments;
- revitalise the high street as the hub of the local community and a vibrant place to be;
- create safe and clean spaces;
- reorient planning policy to encourage the growth of local, independent shops and businesses;
- improve the availability of sustainable transportation for all travel modes.

### Project Planning Stage

#### ***Appointing the Soundscape Expert***

During the initial project planning stage, the development/urban design team assembled to review the plan for the town centre and the design and delivery outcomes for the project.

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To help deliver the project aims, a proposal was made to include a Soundscape Expert<sup>1</sup> (SE) as a key member of the team (see Chapter 7, Section 3 and Steps 1 and 2). The team agreed that the role of the SE was of primary importance to the success of the project, because the SE could guide and inform the design and specification of the project to ensure people's perception of the sound environment (i.e. all of the sounds heard in the environment) of the designed spaces supported, aligned and enhanced where possible the intended health, wellbeing and quality of life aims of the project.

With the SE appointed at this early stage, the SE can advise the project team on soundscape recommendations to support each of the project aims. The next step in the process was to conduct a Soundscape Assessment (SA) of the area (see Chapter 7, Step 3).

### **The Soundscape Assessment**

#### ***Questionnaire and Interview Survey results (Initial Survey)***

The purpose of the SA was to collect data from people, who provide the local expertise. The aim of this step is to gain an understanding of how people feel about (or perceive) the existing sound environment, its value to them and how it affects their daily lives. In other words, what they like and/or dislike about the current sound environment and their preferences for creating or adapting the new sound environment, and controlling the unwanted "noisy" elements.

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<sup>1</sup> Soundscape is a multidisciplinary applied practice, blending a scientific approach with creativity through design. Therefore, the scope for the Soundscape Expert for a project is defined by the project team, based on the type of soundscape specialist skills needed to interact with stakeholders and advise on their perceptual response to sound regarding the proposed development. Those suitably qualified to carry out the work, should be selected for each project based on the scale, impact and requirements of development in consultation with the local planning authority, guided by the framework set out in Table 1. "Suitably qualified" in this context may refer to those with relevant professional qualifications, experience and/or local knowledge (i.e. referred to in PD ISO/TS 12913-2:2018 as "local experts" [8, p.2 and p.14]) depending on the scale, impact and requirements of the development.

Related soundscape specialisms should be decided in consultation with the local planning authority, and include any relevant discipline, practice or local expertise necessary to meet the outcomes of the project depending on the scale, impact and requirements of the development, guided by the framework set out in Table 1. For example, in addition to soundscape engagement experts (i.e. separate from urban sound planning experts), related soundscape specialisms may include experts from the fields of acoustics, architecture, spatial planning, engineering, environmental psychology, sociology, human factors, human behaviour, medicine, communications, mental health, social work, auraldiversity (e.g. autism and hearing loss), sound artists or other relevant non-acoustic specialisms depending on the nature of the development.

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There are several methods to collect people’s perceptions of the sound environment (see Chapter 7, Step 3) including Soundscape Questionnaires, Interviews<sup>2</sup>, Focus Groups and Soundwalks (see Chapter 7, Step 3). Given the high rate of change that this project would bring to the local area and the significant impact these changes would have, the SE recommended that a Soundscape Questionnaire and 1:1 in-depth Interviews be conducted to gain an initial understanding of the depth, range and scale of people’s perceptions and preferences regarding the existing and future sound environments.

These surveys showed that people found the existing area too noisy due, primarily, to road traffic (e.g. cars, motorbikes, diesel buses, delivery vehicles, and sirens). This interrupted their sleep at night and also disturbed their enjoyment of the town centre and local area during the day and at leisure times. They commented that the levels, unpredictability and impact of the noise adversely affected their health (through lack of high quality sleep leading to irritability and stress) and wellbeing as they could not fully relax, be restored, or enjoy their local area.

It was also found that residents in some areas were disturbed by sound from crowds and people in the cultural and entertainment districts in the town, especially in the summer and at weekends year-round.

Regarding preferred sounds, people expressed a desire to hear sounds of nature, including water and birds, combined with seeing these sources. The visual enhancement of the city was cited as equally important to improving the quality of the sound environment. Survey participants emphasised that **both** were critical to the success of the plan for the town centre and to ensure the sustainability of any solutions implemented.

People also expressed a desire to have a sense of vibrancy and “pleasant buzz” in local areas - including cultural sounds and entertainment – but that these sounds would not be overwhelming or dominate to the point of disturbing sleep quality.

### ***The soundwalk (Second survey)***

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<sup>2</sup> British Standards Institution. (2018). PD ISO/TS 12913-2:2018. Acoustics – Soundscape – Data collection. London: BSI.

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After reviewing the initial survey data, the SE developed a series of Soundwalks (SW) (see Chapter 7, Step 3). Based on the feedback regarding noise<sup>3</sup> hotspots, sounds of preference and the proposed plan for the town centre, the SWs were conducted at different representative times of day/evening/night in the town. In accordance with the SW protocol, a survey of participants' feedback was taken along with acoustic and psychoacoustic data (see Chapter 7, Step 4).

The SW enabled the project stakeholders – including local experts (see Footnote 1), policy makers, members of the project team, businesses and the urban designers – to experience 'firsthand' the existing sound environment perceived and expressed by participants in the initial survey. The acoustic and psychoacoustic data collected during the SW enabled the mapping of the sound levels and characteristics with the perceptual experience of the participants for each context and point on the map.

### ***The Soundscape Map and Recommendations***

Analysing the data from the initial and second surveys, the SE developed a Soundscape Map (SM) of the town mapped to the plan for the town centre. The multi-dimensional SM included the areas of noise pollution concerns identified by residents, mapped with their preferences for certain types of sounds and the development proposals in the plan for the town centre.

The SE was then able to propose a range of Soundscape Design Options (SDOs) (see box out), in conjunction with the acoustics team, to support the project aims of the plan for the town centre. The agreed SDOs were then mapped onto the SM as possible interventions for the next round of stakeholder consultations.

### ***Consultation***

Following consultation with stakeholders, the local council and the project developers were pleased to hear that residents could clearly see and understand how their concerns

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<sup>3</sup> Noise is defined as unwanted sound

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regarding noise were being addressed, and how the sound environment of the area would be improved by the reduction of noise pollution and introduction of euphonic<sup>4</sup> sound.

Residents could also have the opportunity to understand the strategy for how the SDOs would be intended to contribute to the improvement of their health, wellbeing and quality of life while also enabling the cultural and economic objectives in the plan for the town centre to be achieved for the benefit of all. This would include a short term vision and also a long term one as the SDO's legacy is delivered.

### ***Post Completion Survey***

Six months after the project close out, the SE conducted a Post Completion Soundscape Survey (PCSS). The PCSS repeated the steps conducted for the initial and second surveys (see The Soundscape Assessment steps in Chapter 7).

The survey outcome showed an initial measurable significant and meaningful improvement in people's perception of the sound environment aligned with the objective data, and alignment with the planned legacy evolution plan for the sound environment.

It could also be shown that this positive outcome was directly contributing to the aims of the plan for the town centre, for example:

- Residents remarked on feeling safer at night and healthier as they were no longer disturbed by sirens and the sounds of crowds.
- Businesses remarked on improved community relations and team member's morale, as they had not received any unresolvable noise complaints.
- Visitor numbers to the town had increased due to the successful cultural regeneration and vibrancy of the area without corresponding noise complaints.
- Local stakeholders and visitors alike commented on the provision of protected living spaces and the variety of high quality areas in which to relax and restore – some of the latter of which had become destinations in and of themselves.

### **Conclusion**

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<sup>4</sup> Sound that is pleasing to the ear

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The plan for the town centre and regeneration of Town A was hailed as a success nationally in Wales and throughout the UK and abroad. The town has become an exemplar for other towns and cities, winning many prestigious awards including for planning and regeneration and a model for sustainable development.

Commenting on the role of having a SE at the heart of the strategy, design and planning of the project, the Project Leader commented: “While we had acknowledged expertise in every other area of the project – for example: architecture, urban design, sustainability, carbon, energy, transportation – we had never before worked with a Soundscape Expert. Being able to evidence people’s perception of the sound environment and the impact that was having and would have on the design of each part of the project set the project team an exciting challenge.

“However, the added dimension of Soundscape Planning only served to invigorate an already excellent team, challenging us to go beyond the state of the art and incorporate design criteria and aspects that would not previously have been considered. The extension of the design pallet for our multi-disciplinary team is evidenced by the outcomes achieved for the client and how people are using, experiencing, and enjoying the town.

We are delighted to see **Town A** recognised for their commitment to this bold approach – incorporating SDOs in their plan for the town centre – and receiving well-deserved recognition. They have opened a path where others will follow.”

### **[Box Out]**

Sound travels through the environment and is shaped, altered, reduced or stopped based on the structures and/or materials it interacts with. Just like an unseen musical instrument, the structure, shape and materials used in the built environment affects how we hear and perceive sound. This knowledge opens up many creative options for urban design teams to consider when planning developments.

Some examples of quiet and low-noise design solutions for a town centre redevelopment are listed below, which can form part of the design palette in a soundscape approach.

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### **Material and surfaces**

- Quiet paving and walkways
- Quiet road surfaces
- Low noise materials on external building/structure facades

### **Landscaping**

- Living (green) walls and green roofs (with low-noise design and/or materials)
- Water features (acoustically designed)
- Berms and raised beds (using low-noise materials)

### **Architecture and street furniture**

- Quiet seating
- Shaped buildings/surfaces (vertical plane)
- Architecture and street furniture

### **People and behaviour**

- Route pedestrian walkways to/from entertainment areas away from sensitive residential areas
- Locate vehicular transportation routes and stops away from sensitive residential areas
- Add designed acoustic ambient sounds to town centre areas to encourage calm (and to lessen the impact of loud voices/shouting)
- Designed water features to encourage calm (and to lessen the impact of loud voices/shouting)
- Creative signage/public messages to encourage quieter behaviour