

The City of Sound: Exploring new approaches to sound in urban planning and development.

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ABSTRACT

In 2013 Struer decided to become The City of Sound, and has since developed a series of policies that activate sound in core areas like business development, health care, culture and urban planning. A recently ratified *Sound Manual for Struer Center* suggests some tools and approaches on how to think through sound in planning and designing city centers, and Struer is now in process of becoming a *Living Lab* for urban sound.

All authors of this paper are actively involved in the development of new approaches to sound in urban planning and design in Struer, and the paper presents some central projects and ideas within this framework: The interactive sound universe *Lyden af Struer* [The Sound of Struer], that allow participants to record and share sounds from Struer, *The Sound Bench*, that plays back music and stories for the community, the large-scale art project *Amplified Views*, where screen-shaped sculptures will mark listening spots and amplify environmental sounds at different spots throughout the municipality, and other temporary art installations during the sound art biennale Struer Tracks. The presentation reflects on these as means to activate sound in the development of community, identity and liveability in a provincial city like Struer.

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Keywords: Sound, Urban Planning, Art
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1. INTRODUCTION

Like other smaller cities worldwide Struer (of approximately 12.000 inhabitants) is challenged as a city centre for shopping and business, as a framework for satisfying everyday life and as a place for inhabitants and visitors to have rich experiences. These globally felt challenges call for new means developed and implemented on a local level. Using the right handles Struer and other cities may maintain and further develop the features of an attractive provincial city, while at the same time communicating local self-perception and unique qualities to a wider audience.

Building on a rich DNA of local audio competences and on the major influence of the Bang & Olufsen headquarter and main facilities in Struer, The city in 2013 decided to focus its strategical development on being “The City of Sound”. The implementation of a mindset and a conceptual framework for considering sound in all relevant areas has developed since then, and now include areas such as: business development, learning plans for schools, art and culture, elder care and urban planning. Essentially Struer is in the process of developing new ways of handling both core deliveries and new challenges by activating sound as a positive and practical means.

This paper presents some of the efforts done in Struer to implement an original approach to sound in urban planning and development. The process of doing this is on-going and has only just begun. But the recent adoption of a Sound Manual for Struer Centre (Stenfeldt, Kreutzfeldt et al.) and an on-going work with a strategy for sound art in Struer public space suggests new orientations, supported by a number of practical projects. The manual builds on the vision that sound in Struer may be an equally important design parameter as visual and material features. This implies that sound will not be treated as noise in diagnostic approaches, but will rather be treated as an active and positive design parameter. The emphasis in Struer is less about restricting *unwanted sound*, and more about activating sound in efforts for a lively and stimulating city affording pauses, play, reflection, meetings and stays. The first step in doing this has been to develop and share an accessible conceptual framework, experimental tools and shared experiences in public space.

2. CONCEPTUAL FRAMEWORK

Sound may be invisible or only unconsciously perceived, but that doesn't make it any less an architectural material than wood, glass, concrete, stone or light. In relation to this, the Sound Manual for Struer City presents a pragmatic definition of a number of concepts relevant for planners and urban stakeholders considering sound as a design parameter. Some of these are well known others are not.

Concepts like *soundscape*, *keynote sound*, *sound mark* and *sound signal* are defined in accordance with their original definition by R. Murray Schafer: the soundscape as the total sonic environment, keynote sound as the background level almost unnoticed in the soundscape, sound mark as a unique sound that signifies place, and sound signals as sounds attracting attention to a message (Schafer 1977 pp. 272-275). The framework is further extended with the concepts of *sound space* and *sound zone*. Sound space is understood as the size and reach of the heard soundscape: qualified as *the compact*, *the bounded* and *the open* sound space. Sound zone is understood as a quality of the heard soundscape: *natural*, *social* or *traffical* sound zones. The combination of the three types of sound spaces and sound zones construct a matrix allowing identification of 9 typical sonic environments. From the compact natural soundscape denoted the garden, to the open social space, the square, different types of impressions may be identified and analyses may show how sonic impressions and planning intentions not always harmonize.

Furthermore *sound spots* and *sound tracks* constitute different types of relationships between the sound, space and movement: sound spots use sound to attract attention to a place, and thereby produce places for exchange and exploration, while sound tracks establishes routes of coherent sounds and thereby produce movement and connections.

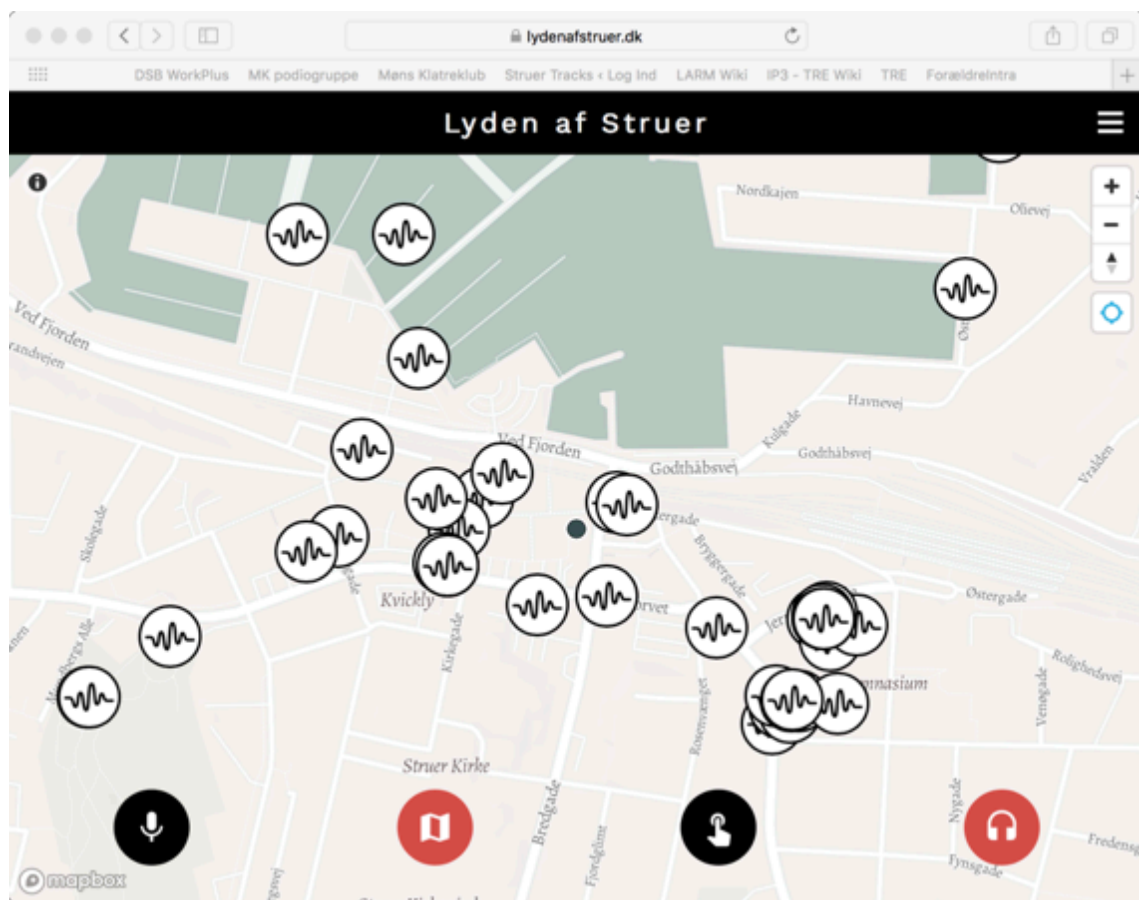
The manual suggests these concepts as a framework for planning with and for sound. It is not meant to suggest hasty application of sound to all urban spaces, rather the manual suggest that given the right consideration sounds can be controlled, supported, attenuated and maybe even applied to support planning intentions. The sound manual further includes concrete suggestions for how to include sound in the implementation of the newly ratified masterplan for central Struer, some of which are already put into action – more about this bellow.

The ratification of a sound manual parallel to the more common *design manual* is to our knowledge a unique step taken by Struer. Rather than establishing aesthetic guidelines for urban design, this manual intends to open up a framework for consideration, that may – or may not – prove valuable to local planners, and which may support Struer in becoming a knowledge hub for active consideration of sound in urban planning.

3. EXPERIMENTAL TOOLS

3.1 The Sound of Struer

Lyden af Struer [The Sound of Struer]¹ is a tool developed to facilitate citizen interaction around the idea of Struer as a City of Sound. Lyden af Struer is an interactive sound map, that allow users in Struer Municipality to upload sounds to a shared digital map directly from mobile devices. The platform is accessible via ordinary web browsers, and is designed for easy and simple interaction. Users may – directly in the interface – record up to 10 seconds of sound and can attach a title and a brief description to the recording. Instantly after upload, the sound is accessible in the areal overview at the location given by the recording device. There are different ways of listening to all the material uploaded to the map: listening to single recordings, listening to a mix of the closest 3-4 recordings – a mix that will change if you move position in Struer, and finally mixing a virtual “route” through Struer and it’s sounds.



Lyden af Struer [The Sound of Struer] map interface. Accessed 17. March 2019 at <http://lydenafstruer.dk>

A project goal is to activate the sound agenda in wider negotiations of identities and values in Struer. The project intends to ask questions such as; Which sounds should we notice? which sounds are important and valuable in Struer? What is the sound of Struer? And what should be the sound of Struer? Artist-driven workshops and a local

¹ Lyden af Struer is developed by the sound art festival Struer Tracks in collaboration with Interactive Spaces Studio at The Alexandra Institute, Struer Museum and The City of Sound Workshop.

communication effort are planned in order to make this a citizen engagement project. The platform is hosted at Struer Museum, and the collective sound map of Struer will be exhibited there, once enough material has been collected.

3.2 The Sound Bench and The Garden of Sound

The sound bench² was installed in a bridge arch in summer 2018. The arch is one of the connections between city centre and harbour front, and it is part of a recreational park designated “the garden of sound”. Activated by pressure plates the bench plays back sound that resonates in the arch. When installed the bench played back soundscapes referring to local places and environments, but the bench has quickly developed into a facility for events and meetings. When the Kim Larsen – a very well know Danish singer – died, the bench played back some of his famous songs – establishing a place that allowed citizens to share memories and the loss of the loved singer.

The City of Sound Workshop, a central information and branding unit in Struer, controls sounds from the bench. The bench allow for a continuous exploration of sound as a positive force in creating a place for recreation and meetings in Struer. It may be used to mark events and to display work of local musicians, podcasts produced by school children etc. In this way it acts as a local poster wall of sound, and a new meeting place in Struer.



The sound Bench in Struer. Photo: Interactive Spaces Urban Studio

² The Sound Bench is designed by Interactive Spaces Urban Studio at the Alexandra Institute. It is a version of The Interactive Bench, also installed other places in Denmark.

4. SHARED EXPERIENCES

4.1 Struer Tracks – Urban Sound Art Festival

The sound art festival Struer Tracks was established in 2017, and runs as a biennale every second year. The festival shows temporary site-specific installations of sound art during two weeks. In 2017 9 different works were realized in Struer: some playing displaced sounds in a wild and bushy area of the local park, others in the form of a public instrument of flutes and water hose and yet others in the form of public performances and interventions.

Struer Tracks has also become a driving force in municipal efforts to develop strategic measures for sound art as an integrated part of urban development. In 2017 the work *Vind dog Vand [Wind and Water]*³ by Frode Gundorf Nielsen was consecrated in a park at a local museum during the festival in 2017. Apart from its sculptural qualities the work also functions as an instrument. Through a system of water and air the red pipes, much like a church organ, produce tones. It plays back a preinstalled sequence once spectators approach, and can furthermore be played as an instrument at performances.

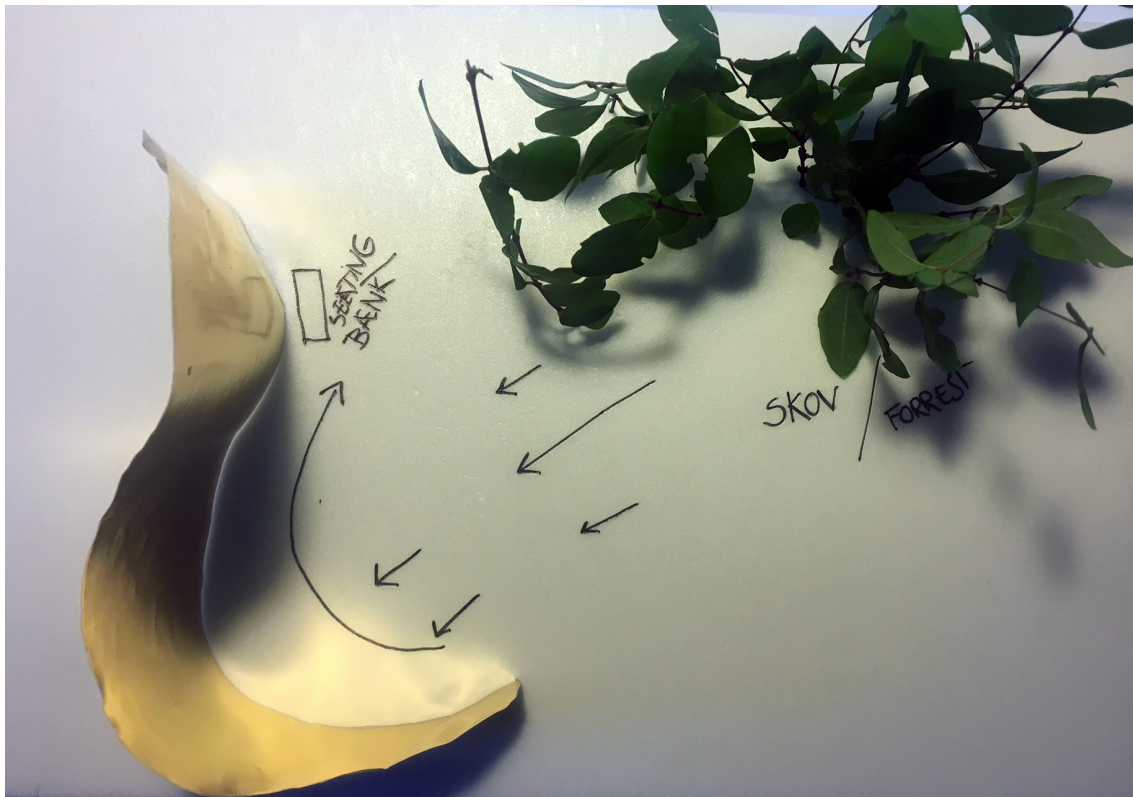


Vind & Vand [Wind & Water] by Frode Gundorf Nielsen, Gimsinghoved Kunst og kulturcenter, Struer. Photo: Jacob Kreutzfeldt 2017.

Presently the artist Ursula Nistrup is developing the work *Amplified Views* to be installed in different places in the municipality and consecrated during Struer Tracks in 2019. *Amplified Views* are large-scale sculptural forms acting as acoustic amplifiers of environmental sounds. It is developed in close collaboration between the artist and Bang & Olufsen, and builds on an initial smaller scale temporary work for the Struer Tracks

³ *Vind & Vand [Wind & Water]* by Frode Gundorf Nielsen is installed at Gimsinghoved Art and Cultural center in collaboration with the curatorial and artistic project *The Overheard*.

festival in 2017. The project underlines the central point that working with sound in planning, design and in artistic practises, does not need to entail the application of “artificial” sound, but can also evolve as a gentle amplification of already present sound and activation of a listening sensibility, that is not always present.



Early sketch for Amplified Views. Ursula Nistrup, 2017.

4.2 THE INTERACTIVE TUNING FORKS

In 2018, Struer initiated the redesign of the central plaza, at Østergade 16. The wish was to establish a permanent and unique landmark for the City of Sound, which at the same time can serve as a playful meeting place for both locals and tourists. Today, the plaza is a larger rectangular area, with minimum 30m between the existing facades. To enable an intimate and immersive sound experience, the concept is based on the idea of a landmark consisting of 3 elements spread out in the area, intertwined with the overall physical landscape. Being directly inspired by the intuitive tuning fork, an interaction with them will let you activate different tones alone or together in a group. The recognizable aspect of the design is important in order to build bridge between different people, independent of age, cultural age groups or gender. In immediate continuation of all the vertical tuning forks, there is a digital-physical pond and the tones will directly affect the water surface, visualizing the sound waves.⁴

⁴ The Interactive Tuning Forks are being designed by Interactive Spaces Urban Studio at the Alexandra Institute in collaboration with the sound artists The Overheard, and will be installed permanently in spring 2020.



Visualization of Interactive Tuning Forks. Interactive Spaces Urban Studio and The Overheard.

5. CONCLUSIONS AND NEXT STEPS

With these projects Struer is taking steps to integrate sound the planning and design of public spaces. The Sound Manual for Struer does not call for overload of designed sounds in Struer City Centre, nor does is focus unidirectional on the reduction of noise. Rather it suggests some basic ways of thinking and planning through sounds in order to create a better city and face some of the challenged that many small cities meet. While noise reduction may be the first and most important challenge to face for many metropolitan areas, the threat from motorized traffic is one among many for smaller provincial cities like Struer In fact the concept of *the silent city* may be equally counterproductive in Struer as that of *the noisy city*. What is called for is pleasant and first of all *lively* city spaces facilitating meetings, exchanges and experiences. With its strategic effort in the field of sound Struer may gain valuable experiences as a sensorial city.

The new master plan for Struer points at 6 transversal lines as potentials for further development of city centre in creating better connections and way finding. Designated as the “coast-connection”, “the recreative connection”, “the culture connection”, “the harbour connection”, “the music connection” and “the sound connection” lines allow for consideration of sound in choices concerning coating, building, planting, design, decoration and other types of interventions. Furthermore the municipality is in process of creating a strategy for sound art in public spaces. Through a series of workshops citizens’ needs and wishes for public space are investigated and artistic strategies that may match these are suggested.

The application of sound in city planning is not a new field, but the large-scale efforts by Struer municipality may prove to break new ground, particularly if Struer manages to collect experiences and collaborate with knowledge partners in creating transferable knowledge. To that end the Sound Manual suggest the formation of a Living Lab for urban sound. Struer Living Lab should facilitate research collaboration and systematic evaluation of efforts involving sound in public space. With the above-mentioned efforts and with the right collaborations Struer may become a knowledge hub for urban sound.

6. REFERENCES

1. Liselott Stenfeldt, Jacob Kreutzfeldt and Struer Municipality, "*Lydmanual for Struer Bymidte*" [*Sound Manual for Struer Centre*], Struer (2018)
2. Gehl Architects, "*Struer Bymidte & Havn. Forundersøgelse Sammenhæng Bymidte & Havn*" [*Struer City Center and Harbour. Feasibility Study Connections City Centre & Harbour*]. Copenhagen 2014.
3. Schönherr, The Alexandra Institute and Struer Municipality: "*Lydens By. Struer Bymidteplan*" [*The City of Sound. Struer City Centre Plan*], Struer (2018)
4. R. Murray Schaefer, "*The Tuning of the World*". Knopf (1977)
5. Sarah Lappin, Gascia Ouzounian and Rachel O'Grady, *The Sound-Considered City* (2018)
6. Allegra Williams & Maggie Coblenz (editors), "*Listening to the City*" MIT (2018)
7. Jian Kang & Brigitte Schulte-Fortkamp (editors), "*Soundscape and the Built Environment*", CRC (2016)