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ID 1669 | SOUNDS IN THE CITY WORKSHOPS: INTEGRATING THE SOUNDSCAPE APPROACH IN URBAN DESIGN AND PLANNING PRACTICES

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1 INTRODUCTION

1.1 SOUNDSCAPE AS A NEW APPROACH TO URBAN NOISE

This paper discusses urban sound and is based on the work of the Sounds in the City2 team, operating out of McGill University in Montreal, Canada. The team's focus is an approach called soundscape, which is a departure from a more traditional approach to urban sound. Urban planning education and practice have traditionally been focused on noise mitigation, concentrating almost exclusively on reducing urban noise levels. However, this method has its limitations because a quiet city is not necessarily an interesting or better one. The soundscape approach, on the other hand, encourages positive sounds in urban environments while mitigating only unwanted sounds and it also necessitates planning the environment far in advance rather than waiting for noise problems to occur. This approach is attracting the attention of many as an innovative and positive shift in the way we create, manage and control sound in our cities. It also presents the opportunity for more collaboration between planners, designers³ and sound experts to improve our urban spaces.

Soundscape has been defined by a diverse International Organization for Standards (ISO) working group of soundscape researchers and professionals as “the acoustic environment as perceived and experienced by people or society, in context” (ISO 12913-1, 2014). The soundscape approach captures the idea that

sounds 'appropriate' to the context can be used to positive effect, whereas the traditional urban noise mitigation approach aims to make the city less negative but not necessarily more positive. These positive sounds can be ones that we rely on to navigate, give us a sense of place and connect us with our activities. Certain sounds may be very welcome in a bustling pedestrian zone filled with outdoor cafés and restaurants, but these same sounds may be unwelcome in a park where people go to escape the busy streets, relax or read a book. Therefore, this component of context from the soundscape definition is key in how we define what is desired and undesired.

Indeed, not all sounds have negative effects on us, and some sounds even improve our lives and moods, help orient us, and shape our understanding of a space. The most obvious example of this positive type of sound is music, but several others are common, such as bird sounds in parks and neighbourhoods, water sounds from fountains in public environments, and the sounds of lively conversations at marketplaces and outdoor cafés and terraces. As a precursor to the Sounds in the City project, a McGill research team added music to the gazebo of a busy Montreal pocket park. Through interviews and questionnaires, the team discovered that park users found the space more pleasant and vibrant with the music. Furthermore, the presence of music did not have a detrimental effect on perceptions of the space's calmness and soundscape appropriateness (Steele et al, 2016). As stated in the soundscape definition, it's important to consider the context in which the sounds take place and how these sounds may be interpreted differently by individuals. For example, the bustling sounds of Times Square in New York City can represent, for some, a world of commerce and opportunity, but these same sounds would generally be less welcome by those trying to sleep in such an environment. The sound of an approaching metro train is welcome if someone is on the platform waiting for it, but the sound may be interpreted differently if a person is further away and running to make the train. Recognizing, understanding and mastering these various sound sources in the context of their appropriateness has immense implications for our cities. It is clear that good urban soundscapes require an understanding of the needs of residents and space users, and that the users should also somehow be involved in these emerging collaborations between soundscape experts and planners. This is in line with some major contemporary trends in urban planning advocating public participation (e.g. Healey, 1997).

Soundscape can be a framework that helps achieve global planning goals. By imagining a space through its sound, we can achieve many of the following: minimize wasted space by identifying incompatible urban activities in proposed programs; better match the visual environment with the auditory one; and improve quality of life. It's important to note that the soundscape approach does not totally do away with advances in acoustics. It's also important to have a fundamental knowledge of acoustic principles, such as an understanding of sound propagation, in order to understand what activities may be compatible within the same environment. This need for both some expertise in urban planning practice and traditional acoustics presents interesting challenges to those working in soundscapes, discussed in detail in Steele et al. (2012). These challenges can be the result of different expectations of knowledge and styles across disciplines, or the way people access and deal with new information, such as from research.

1.2 GAPS FROM RESEARCH TO PRACTICE

A number of factors have slowed the evident transition from a noise mitigation to a soundscape approach in urban planning. Recent research (Pijpers van Esch, 2015) has probed the information sources of urban planners to uncover that while planners consult subject-matter experts on a regular basis, they rarely visit the scientific literature on their own. While these subject-matter experts may themselves access scientific literature, planners may not necessarily encounter new trends arising from academia that challenge traditional notions cemented by their training. Another key factor is that the most pressing urban problems get solved first. Weber et al. (2011) demonstrate how catastrophic failures can quickly advance public policy, such as a factory explosion compelling new public safety laws. In the domain of noise, while there are problems, they have not been catastrophic, allowing the status quo to persist. While poor outcomes for noise are serious and can have deadly consequences for humans and animals, their effects on the public can take time to manifest themselves. According to a review by Passchier-Vermeer and Passchier (2000), it has been known since at least the 1960s that noise exposure poses a public health risk for its ability to cause hearing impairment, hypertension, heart disease, annoyance, sleep disturbance, and decreased school performance. To counter these negative effects, cities have responded largely with punitive bylaws for noise-makers, as opposed to adapting urban strategy and planning decisions.

In the realm of education for planners, sound (or “noise”) continues to receive limited attention. The American Planning Institute, which offers work certifications in the US and Canada, provides outlines on its website for the topics covered in its examinations. For the general planning examination, 64 topics are listed in the exam outline, none of which include noise or sound. Two specialized examinations are also offered: one for environmental planning where the topics list enumerates dozens of factors under examination - noise is mentioned only as a sub-topic of “public-health indicators”; and one for urban design where a list of hundreds of topics exist, yet noise or sound are not mentioned. Additionally, the second edition of Kevin Lynch’s seminal book *Site Planning* (1984), which is still widely used, has a chapter called “Light, Noise, and Air”. This chapter includes only two pages of information on decibels, attenuation, barriers, and sources.

Challenges also remain in determining tools for education. Raimbault and Dubois (2005), in an interview study, found that even experts in acoustics can fail to agree on basic technical vocabulary to describe sound events. This vocabulary is even less precise outside of acoustics, as they found when interviewing planners and other practitioners that intervene in the city. For example, there is no clear terminology to describe the sound made by a car door closing, whereas a wall pattern could easily be described visually as “polka dot” or “red and white”. We are often lacking consistent and easily understandable terminology to describe everyday sounds.

1.3 BRIDGING THE GAP TO SOUNDSCAPE

Soundscape, having partially emerged from the noise mitigation approach, continues to have issues with the research-practice gap. Soundscape calls for an interdisciplinary approach often using mixed-methods (i.e. integrating qualitative and quantitative approaches) with a focus on users that offers the potential to better bridge the gap between the planning community and sound experts. A transition has begun, but it is not fully realized. While there are established conferences in noise mitigation (e.g. InterNOISE, and ICBen Congress on Noise as a Public Health Problem), soundscape only plays a small role with a handful of sessions during these larger conferences. A soundscape approach presents an opportunity for multiple disciplines to collaborate and take a more proactive approach to planning our urban sound environments.

Another aspect of soundscape, which is helping to reduce the research-practice gap is the focus on the user and their perceptions. However, in addition to a focus on the 'city user', there is a need to consider the role and contributions of the 'city makers.' The way planners deal with the information they have on sound has a profound impact on the way the city is shaped and used. The Sounds in the City project has been formed to respond to this need.

2 SOUNDS IN THE CITY – AN INTRODUCTION

A new collaboration between university researchers, acoustic consultants and the City of Montreal addresses this gap between soundscape research and urban planning and design practices. Through outreach and knowledge co-creation activities with practitioners of the built environment, city officials, and the general public, the Sounds in the City team is aiming to improve the quality of urban sound environments.

The team's research agenda aims to position Montreal as a leader in urban noise management and soundscape by connecting research and practice. With expertise in soundscape, urban planning, design, and noise regulation, and a collaborative track record, the research team is uniquely positioned to address this established research-practice gap, and be among the firsts to do so.

The project is supported by an Insight Development Grant with Canada’s SSHRC (Social Sciences and Humanities Research Council), a major funding agency. The Insight Development Grant was initiated to promote “knowledge and understanding from cross-sector perspectives”, to “support new approaches on complex topics that transcend the capacity of any one scholar, institution or discipline”, and to “mobilize research knowledge” .

3 PEDESTRIANIZATION WORKSHOP AND KNOWLEDGE CO-CREATION – “ANIMATING PEDESTRIAN ZONES IN THE SONIC DIMENSION”

As the project necessitates strategic outreach, knowledge co-creation, and collaboration, the Sounds in the City team chose to run a 2-day workshop at McGill University in November of 2016, which united members of the soundscape research community with practitioners of the built environment, students and professionals from a variety of disciplines, city officials, and members of the general public. The workshop included presentations but also focused on case studies and collaborative exercises for animating the soundscape. More specifically, the event was organized using three separate educational formats: instructional (with presentations by researchers and practitioners), co-design exercises (with a focus on three new pedestrian zones in Montreal, which are scheduled to open in 2017 and 2018), and audio demonstrations (with demos to recreate different soundscapes, explain the current noise regulations, and relay the experience of low-vision users who rely on sound to navigate through public spaces). The workshop was titled, Animating Pedestrian Zones in the Sonic Dimension.

Today, there is no established and authoritative world expertise on the problem of sound in pedestrianized areas (commercial or otherwise). With a focus on knowledge co-creation from different domains, the event included the participation of soundscape and design professionals from Montréal, Germany, the Netherlands, and the UK. Planners, designers and other participants were challenged to incorporate sound considerations while designing a pedestrian zone, and sound researchers were challenged to appreciate the complexity of planning real urban spaces, which have a host of practical considerations and challenges (e.g. transport, budget, emergency services, etc.)

3.1 MOTIVATION: WHY PEDESTRIANIZATION

The creation of pedestrianized zones is on the rise in cities around the world. Typically, streets or sections of streets are closed to automobile traffic and the entire space is given over to pedestrians. These spaces can become landmarks for a city when they work well - Think of NYC's Times Square since its renovation - or they can become heavily politicized scapegoats when they don't. For example, cars were reintroduced to Sacramento's K Street Pedestrian Mall in 2011 to "increase vibrancy and accessibility" after a long period of stagnation. One aspect of these places that is crucial yet rarely discussed is the role that sound plays in the function of these spaces and the impact that these sounds have on the public.

Each project begins when we remove the largest source of sound - the traffic. Reducing "noise" is beneficial for health and quality of life, but the traffic noise may also have been serving a purpose. If we imagine ourselves in a large city park, the traffic-free silence is potentially calming, but in a commercial environment, traffic noise can offer steady sound masking and, thus, a form of privacy among all of the users. Without this masking, we could be subject to "awkward silence" where there is nothing left "underneath" the traffic noise. Such a soundscape could contribute to a negative cycle that compromises the space's ability to function as a productive public space. But this then begs the question, what is the appropriate sonic ambiance?

A vibrant pedestrian zone needs sounds that reflect the culture and activities of the local area at all hours of the day. Furthermore, the visual environment and the sound environment need to work together. Is the sound of a water fountain or music appropriate to add to an environment? Could sonic artworks encourage lingering and commerce or affect the behaviours of the people and animals in the environment? Well-designed pedestrian zones necessitate the collaboration of planners, designers, city officials, sound experts, and citizens. Planners and designers need to articulate their goals and concepts for an environment and soundscape experts can then collaborate with the team to develop a site-specific soundscape strategy. It is also crucial that citizens be included in the entire process, as they will be the ones who are primarily using the environments.



Figure 1 – Left: Montreal site visits led by planner; Right: Presentations from soundscape experts

3.2 SITE VISITS

The November 2016 event began on the first day with site tours (see Figure 1) led by the city employees responsible for each of the selected pedestrianization projects. These site tours lasted approximately 2 hours and spanned the entirety of 2 of the 3 projects underway, and most the third project. There was ample time for discussion at the end of the walks, so participants had the opportunity to ask questions about specific details.

3.3 WORKSHOP ORGANIZATION AROUND THREE STYLES

Day 2 of the event was structured into three distinct types of activities: presentations; sound demos; and co-design exercises. Within this format, participants were first introduced to soundscape concepts and case studies, and then given the opportunity to practice their learnings during co-design exercises and discussions later in the day.

3.3.1 ACADEMIC PRESENTATIONS WITH “BUILDING BLOCKS”

The organizers began the morning session with presentations introducing the soundscape approach and the Sounds in the City project. Four invited speakers then gave 30-minute presentations on their sound research (see Figure 1). As many of the workshop participants were not from sound disciplines, soundscape presenters had been encouraged to clearly explain their core concepts, important key terms, and definitions. Many participants were not from research disciplines, so presenters were encouraged to focus on their findings and the implications of their research more than on their research methods.

Each organizer was asked to end their individual presentation with an extra 5- to 10-minute summary of their thoughts on a particular topic that would help participants make more informed decisions about the sounds of pedestrianized areas. These summaries were called “building blocks” as the intention was to use them again later in the following two sessions. These building blocks were made up of suggested best practices and potential pitfalls based on the presenters' years of research experience and were designed to be easier to understand than the academic portion of the presentation. The six building blocks are listed in Table 1.

	“Building Block” Title	Presenter
1	Soundscapes and activities	Daniel Steele
2	Visualizing soundscapes for planning	Martijn Lugten
3	Soundscape and public art	Lisa Lavia
4	Interactive sound installations (Using audio islands)	Andre Fiebig
5	Using water features	Jochen Steffens
6	Music for public space	Romain Dumoulin

Table 1 – “Building block” presentations from soundscape experts for sharing practical soundscape tools to be used later in the co-design workshop

3.3.2 LABORATORY DEMONSTRATIONS

In the next session, participants were split into small groups and rotated through two separate audio demos (see Figure 2) of about 15 minutes each.

One of the two audio demos, led by Romain Dumoulin, was an immersive interactive audio installation allowing the reproduction of existing and virtual soundscapes using ambisonic8 technology with both ambisonic recordings and a large multi-channel sound system. With custom software, virtual sound sources could be added anywhere at varying sound levels and at various positions of the listeners' surroundings. In the context of a training on noise regulations, a number of real-life noise complaint scenarios were demonstrated including a short example where an annoying, but legal (from a regulatory perspective) sound source was added; then a non-disturbing but technically illegal sound source was added. The installation aimed to educate participants on the complex relationship between regulatory noise levels and annoyance and raise awareness on inherent limitations of noise regulations. Finally, the potential of the installation as a soundscape design and planning tool was highlighted with several demonstrations where additional sound sources such as cars, crowds, fountains and AC-units were virtually added to existing sound environments. These demonstrations highlighted the idea that sound sources should be evaluated on a case-by-case basis such that they are appropriate for a particular context and highlighting the weakness of the approach that only aims to satisfy the regulatory conditions in both noise and urban planning by-laws.

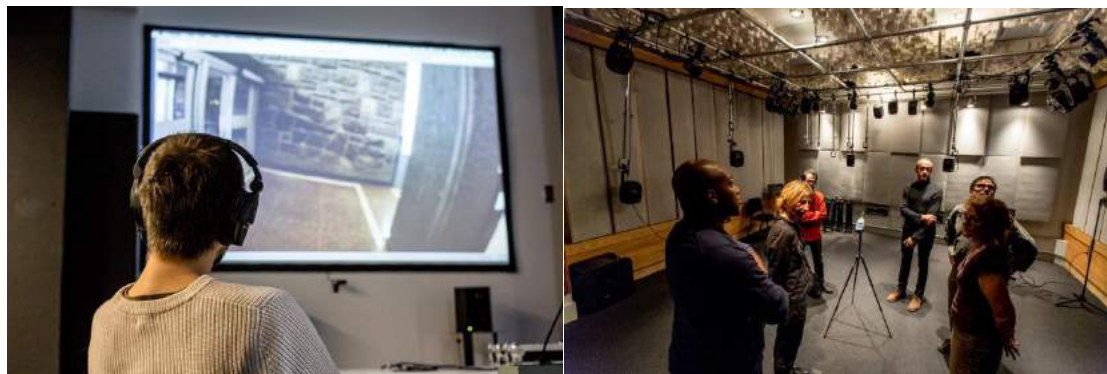


Figure 2 – Left: demo of blind city walk; Right: ambisonic virtual demo

The other audio demo was a self-narrated tour of the city of Montreal. A blind individual took a walk with researcher, Florian Grond, while wearing a helmet camera fitted with microphones. The individual then sat down with the researcher to re-listen to the walk while retrospectively narrating his experiences on the walk. Participants reported being surprised at the complexity of the cues the narrator relied on to navigate his environment. The purpose of this demonstration was not only to heighten participants' awareness and sensitivity to how a blind person or individuals with specific visual disabilities may use sound to navigate his or her environment, but also to demonstrate how sound plays a crucial role in how we interpret our sense of space and orientation.

3.3.3 CO-DESIGN WORKSHOP

The third and final session was a co-design session where all participants, presenters, and organizers collaborated in smaller teams to complete a structured exercise based on the three Montreal pedestrian zones and the six soundscape building blocks.

All of these co-design sessions took place in the same large window-filled room on the 8th floor of the CIRMMT tower, and took place within a three-and-a-half-hour period from 14h-17h30. We'd intentionally set up half of the room to resemble a sort of "working design studio space." Tables were grouped together to represent each of the three pedestrian zones and red street signs, depicting each of the three pedestrian zones, sat atop the three working spaces (see Figure 3). Each working space had several different style street maps in colour and black and white, in addition to lots of coloured pens, pencils, post-its and blank paper. Audio recordings were also taken with participants' permission, so the Sounds in the City team would be able to refer to the workshops for later analysis.

Knowledgeable city planners and architects responsible for each of the pedestrian zones kicked off the session by providing brief overviews of each of their projects. Participants were then instructed to physically move into the design studio space and choose the pedestrian zone that interested them most. Each team was then tasked with applying their learnings and insights from earlier in the conference in order to plan the soundscape for their designated pedestrian zone. We had divided the exercise into three phases: Strategy/Planning, Design and Production and had given “suggested times” for each group to spend on each section. In each team, a sound expert played the role of team leader and guided the group through the exercises. Participants had roughly an hour to work through the exercise and then each team presented their proposed ideas to the larger group.

In the Strategy/Planning section, we wanted participants to consider and discuss the usage of the space throughout different times of the day, week and year. In order to facilitate fruitful discussions, we had provided a series of prompter questions. In the design section, we challenged the participants to create a soundscape that supports the envisaged activities, maximizes pleasant features and minimizes unpleasant ones, and matches the visual environment. Like the previous section, we provided prompter questions to generate ideas and discussion and also made suggestions on the types of sound interventions which could be considered such as water features, sound art, music, or natural or human-generated interventions, derived directly from the earlier “building blocks” presented by the soundscape researchers. Lastly, for the production section, the participants were challenged to consider how they would put their soundscape plan into action. Again, prompter questions were provided.



Figure 3 – Left and Right: Small groups discussing soundscapes of pedestrianized areas in a co-design workshop

Production prompter questions: How could you prototype and test your ideas before moving into a production phase? Would you need any infrastructure changes to implement your plan? Who would maintain the sound features you propose? Do any of your proposed interventions require curation (e.g. updating content, selecting performers, etc.)? Which aspects of this intervention are high and low priority? Are there any laws or regulations that may pose challenges for implementing your proposed ideas?

Groups next presented their ideas and designs to the whole room. We had originally created guidelines for the structure of these presentations, but then spontaneously decided to leave the style and structure up to the discretion of each group. All groups worked very diligently on their task at hand, and we had a very lively and fruitful discussion following the presentations. However, it was very noticeable that the group dynamics and outcomes varied quite dramatically from one table to the next. We will elaborate on this more in detail when we discuss some of the key take-aways related to the structure of the workshop and the group dynamics.

Before taking a 15-minute coffee break, participants were asked to take a few minutes to write down something on an index card that came up for them related to soundscapes during the exercises (e.g. a burning question, a clarification needed, a challenge they face, something that they’ve learned during the conference that they’re excited to share and implement, etc.). Based on the proximity of the tables and the active participation of many participants in the previous discussion, we decided to conduct the discussion as a larger group as opposed to breaking out again into smaller groups.

4 WORKSHOP SUMMARY AND QUESTIONNAIRES

The workshop officially had 64 registered participants; however, between no-shows and participants who could not stay for the whole day, there were generally between 30 and 40 people at all times. Based on the survey responses, it appears there was a good balance between the sectors (of 20 respondents who answered a prompt about their sector, 7 identified as public sector, 7 identified as private sector, and 6 identified as academic sector).

4.1 BREAKOUT SUMMARY AND ANALYSIS

Each of the three group facilitators detailed their impressions and observations of their team's experience in collaborating on the exercise. At each table, three very different working styles and types of discussions were observed, based on many factors: the specifics of the actual pedestrian zone (stage of completion of the project, goals, time-frame, challenges, etc.); the expertise and backgrounds of the people at the table and the group dynamics; the openness of the Montreal city employee to discuss new ideas; the ability of the facilitator to keep the participants focused on the task at hand; and the team's receptiveness to exploring new concepts.

The organizers felt that, in general, the projects that were the most developed were the least receptive to new soundscape ideas. In other words, the more planning, design and production that had been done on a project, the less receptive planners were to considering integrating soundscape interventions into their process. Also, some projects elicited more general sound intervention strategies where soundscape was used to enhance project goals whereas some other project teams had focused on specific acoustics problems. For example, on the Promenade Fleuve-Montagne, a multi-kilometre walking path connecting Montreal's river to its mountain, the discussion centred on whether or not there should be a musical venue and where it might go. However, on the St. Catherine project, located in Montreal's most central shopping corridor, the discussion was centred on whether specific features of a proposed inflatable installation, which the City will be installing, would serve any acoustic advantage on the site.

Practical solutions were also raised. In an effort to make a comfortable acoustic environment on the aforementioned Promenade Fleuve-Montagne, the site planners were very receptive to an idea involving traffic. On a particularly steep part of the promenade, adjacent traffic was traveling in two directions, but at the suggestion of the soundscape experts, the possibility was raised that the traffic traveling uphill be relocated to a different street, rendering the street a one-way, to help remove the sound of the accelerating motors from the site. This idea was deemed feasible and may be incorporated into the actual plan.

4.2 FOLLOW-UP QUESTIONNAIRES

24 of the 64 registered participants completed an online exit survey about their experience at the soundscape workshop. In general, responses indicated strong levels of interest for all aspects of the workshop. Participants were invited to take the questionnaire and give their feedback in French or English. They were asked questions about their own practice and whether they found each aspect of the workshop to be both useful and interesting.

Unless otherwise reported, all questions are on a 5-point Likert scale. The scores for interesting were always slightly higher than the scores for useful. The lowest mean (3.92) was a question on whether participants considered sound in their work practice. Given the relatively low mean for this response, we believe that, to some extent, we had reached our target audience. All other means exceeded 4.0 and are presented in Table 2.

There was a notable enthusiasm for the audio demonstrations. The mean for "useful" was 0.57 points above the next highest score for the other sessions and "interesting" was 0.47 points above the next highest score. That these scores were roughly a half-point higher than already positive scores for other sessions is telling of the potential for audio demos as educational tools. The success of this component also suggests a need to further develop this type of format for future events.

4.2.1 WRITTEN COMMENTS

The questionnaire also left room for participants to write free format responses about what they liked and what they thought could be improved.

Regarding the morning session, participants commented on the “diverse” and “interesting” presentations from “competent experts”. Two people mentioned appreciating the distinct building blocks with their useful lessons. They suggested the following improvements and comments: researchers tended to speak too long and didn’t have enough time for questions; brochures summarizing the topics would help; and that presentations could contain even fewer academic diagrams.

Session	Prompt	Mean	Sample Size
General questions	I am sensitive to sound in my daily environment	4.25	N = 24
	I consider sound in my work practice	3.92	
	This event influenced the way I consider sound in public spaces	4.29	
Morning session Presentations and Building Blocks	I found the session: useful	4.18	N = 17
	I found the session: interesting	4.41	
Afternoon session Co-design workshop	I found the session: useful	4.00	N = 13
	I found the session: interesting	4.08	
Laboratory demonstrations	I found the session: useful	4.75	N = 16
	I found the session: interesting	4.88	

Table 2 – Results of follow-up questionnaire on different parts of the Animating Pedestrian Zones in the Sonic Dimension workshop

For the afternoon session, participants enjoyed “the ability to apply [their] new knowledge to a concrete situation” and having an “exchange with experts about their perception of urban noise” ; however, a participant thought the presentations and activity were too detached in time. Other appreciated aspects of the afternoon breakout session were: noting how it was “great that the City of Montreal participated”; coming up with “creative solutions”; interacting on a “live” project with a “hot discussion”. Suggestions for improvement included: the desire for even smaller groups, fewer questions on the worksheet, and the need to make sure that there were enough experts outside of sound at each table.

For the laboratory demonstrations, participants liked the “passionate” experts and the “striking” demos, getting to “hear someone’s actual research”, and living an experience that is normally abstract. They were impressed by the “technical expertise and professionalism” and thought that the demo was a good way to help them understand decibels more in depth. They hoped that the city would be “able to use these types of demos for serious projects.” Suggestions included: a guide for elected councillors and urbanists related to the revision of noise regulations; an awareness campaign among noise makers; and a method for testing out soundscape designs in advance of an intervention. Suggestions for improvement included: wanting more time with the demos, particularly the immersive virtual demo (this was suggested by most of those who responded to the prompt); and having participants suggest modifications, especially to test their ideas for the pedestrianization interventions.

Participants were asked separately about their ideas for improving the collaborative experience of the workshops. They indicated wanting even more information about the intervention site, making sure every participant understands the exercise brief, more time for the worksheet activity, and even smaller groups.

Lastly, participants were asked how they would like to learn more about soundscapes. The following examples were given with the question: presentations, workshops, soundwalks, and online content. Of the 13 participants who responded to this question, 6 want access to more presentations, 8 want workshops, 8

want soundwalks, and 3 want online content. Other respondents suggested: “a survey of interesting examples of places that use sound creatively”, sound installations, “urban interventions constructed with noise and sound in mind”, artistic approaches, “simulations”, presentations about soundscape from non-soundscape experts, and a “toolkit for designers”. One participant said that the workshop was “good enough...to start concerning myself with soundscape in my daily life”.

5 DISCUSSION AND CONCLUSION

5.1 SUMMARY OF WORKSHOP AND FINDINGS

Sound is surely not the only factor that can “make or break” a project; however, sound can be used as a lens for diagnosing and imagining urban spaces. Thinking about sound may help us to understand why a space is not being used as intended, whether certain envisioned activities are compatible with the existing environment, and how creative solutions can reinforce the qualities of a space. While spaces can certainly be designed in the absence of sound considerations, soundscape planning can help improve outcomes by: reducing wasted resources; helping avoid conflicts that may arise at the latter stages of a project; promoting a more collaborative approach between various professionals of the built environment, the City and citizens; invigorating spaces; and highlighting the importance of the participation of the users of a space in the process for designing it. Sometimes, when no other options remain, the appropriate soundscape intervention can still be to mitigate problematic noise. The traditional noise mitigation approach can thus be considered an option within the broader soundscape approach.

The workshop benefited most fundamentally from first-time interactions between professionals and academics in sound and planning disciplines. Discussing soundscape gave participants novel opportunities to interact with one another and iterate on their ideas. As previously mentioned in the workshop summary, the further along a project is in its planning phase, the more difficult it is to meaningfully intervene with soundscape ideas. This is exactly why those who advocate the soundscape approach over the noise mitigation approach believe that sound should be considered as far in advance as possible in the planning process.

What will remain a challenge is the ideal group size for soundscape discussions. Too small, and the risk is that not enough of the expertise will be present to represent all of the project aspects; too large and each person will not be able to speak their share.

The pronounced success of the demos and the comments that accompanied the scores indicate that the demos struck a balance between having accessible, compelling content as well as a perceived “scientific authority” of the hi-tech laboratory with equipment and technically-oriented presenters in their “natural habitat”.

5.2 THEORETICAL CONTRIBUTIONS

Facilitating collaborations between researchers and practitioners as equal contributors has the potential to dramatically improve the quality of our urban environments. Furthermore, studying the barriers and facilitators that prevent or encourage practitioners to seek out research information on environmental topics is important to address the research-to-practice pathway. We were encouraged by the enthusiasm for the laboratory demos. Our research findings on these barriers and facilitators could also benefit other domains where established research expertise can be used to help practitioners make more informed decisions (e.g. controlling wind and reducing urban heat islands).

After hearing from some of our collaborators from the City during our 2-day event, it became clear that their timelines for projects are often extremely tight and sometimes unrealistic. Politicians often influence or set their timelines and this often doesn’t take into account a realistic process for all phases of the projects. It’s difficult to explore innovative options and considerations when you’re under tight and unrealistic deadlines to bring a project from concept to reality. This is where academia could potentially add significant value to the city and vice versa. More collaboration between the city and universities could not only lead to more information sharing about relevant topics, but also to potential avenues for collaborations

on project. Universities may provide a nice platform for the cities to test and prototype ideas that they wouldn't have time to do otherwise. It would also give students and researchers an opportunity to work on real world projects, learn by doing and develop professional networks.

5.3 PRACTICAL CONTRIBUTIONS

The workshop format provided a collaborative environment where we were able to test the appropriate content, media, and tools for communicating with urban planners, designers, city officials, a variety of students and professional, and the general public about soundscape concepts. In doing so, we worked toward bridging the gap between soundscape research and planning and design practices, which allowed both sides to contribute equally to the discussion, build on each other's ideas, and focus on content that was simultaneously useful, usable, and interesting. This approach offers great potential for shaping the future of urban noise management, because it encourages planners, designers, and city employees to incorporate sound considerations into the conceptual phases of their projects. It also sensitizes all parties involved to the necessity of incorporating the public in the process, as they are the users of the environments and often hold key insights and aspirations for the spaces.

5.3.1 POTENTIAL IMPACT ON MONTREAL'S SOUNDSCAPES

What kind of impact has the November event had on the Montreal design and planning community? Local Montreal practitioners of the built environments who attended the event should have a better understanding of the soundscape approach and some of the soundscape-related resources that are available to them. Furthermore, we hope that the soundscape approach will provide professionals, city officials, and citizens with a heightened awareness about the impactful role that sounds plays in their urban environments. This may lead to some very real changes in Montreal, even in the short-term, whether it is the creation of a one-way street to reduce uphill-bound traffic noise, collaborations on new pedestrianization projects, or through other changes to come under the purview of the Sounds in the City project.

5.4 FUTURE WORK

What kind of future projects do we see on the horizon for the Sounds in the City team? For starters, the team is focusing on creating a best practice review of urban noise management in Montreal and exploring ways of integrating insights from soundscape research into Montreal's current noise regulations and procedures.

Given the positive feedback and enthusiasm from participants following the November event, we aim to develop workshops on more themes that are relevant to planners, designers, city officials and residents. We also aim to demonstrate the importance of integrating the public's input and ideas into the conceptual process. Given the enthusiasm for the laboratory sound demos, we aim to develop these into more structured and beneficial programs for participants.

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ID 1680 | THE (IN)CONSISTENT COMMUNITY BOUNDARIES: TEMPORALITY IN MULTIPLE SOCIAL-SPATIAL INTERACTIONS

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ABSTRACT: Boundaries are temporal. The perception of a boundary is an interactive process in relation to specific social contexts. This article investigates the temporality of community boundaries, focusing on their social-spatial interactions through performatives, which contribute to both the inconsistency and consistency of the perceived boundaries, and analyzes the dynamic community boundaries in time with empirical evidences from two typical Beijing neighborhoods. Building on an analogy with theater performances, the article brings forward a conceptual framework for the understanding and analysis of community boundaries in urban space, with a focus on the stimulators of spatial-temporal transformations. The temporality of boundaries can be understood in two perspectives, situational and representational. While the former promotes inconsistency of boundaries with ruptures and shifts, the latter brings consistency to boundaries through bring diachronic, repeating perceptions to the contemporary spaces. The temporality of community boundaries implies a connection of the neighborhood and surrounding urban areas. The more a community is integrated, the more changes and shifts take place to the boundaries, which hence become flexible, tolerant, and porous with publicness.

KEYWORDS: boundary, temporality, social-spatial interactions, urban Beijing