Using data to Rethink Cities for people in a Post-COVID19 World

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People bring cities to life. They interact, work, socialise and travel. Without this, cities are just collections of buildings and infrastructure. The way we connect to cities is by developing a "sense of place". The concept describes how we perceive and attach to places we use daily. This connection with cities changes over time but is always grounded in sense of place. Due to covid-19, this relationship and connection is on hiatus all over the world.

As we start planning for post-covid cities, we need to recognize the task and importance to better understand what the pandemics represents for cities and why it has and can change people's sense of place so profoundly. One way to do this, is to turn to data - as a compass in uncertain times. Data can be seen as the bridge that will allow us to create new meaningful forms of value for people in the cities. Yet our collective ability to collect and organise this data and to exploit it in a way that delivers better urban services and a better society for everyone is at best formative and uneven.

Already before covid-19, we had reached a stage at which certain key issues needed to be addressed. Now the crisis has accelerated these needs to:

1. **Create and promote new practices around new data-based planning and design tools** (and let urban data management and urban governance inform each other, in order to build bridge between policymakers and citizens)
   Cities institutions are still to be found lacking in data-related capacity and skills, and often struggle to justify the funds and partnerships needed to enable the meaningful exploitation of data for positive policy outcomes
2. **Make room for new, disruptive services, and business models** *as emerging result of data progress and technological advancement.*

3. **Focus even more on qualifying and testing new engagement methods to put citizens back at the centre of the action**
Progress needs to be made on enabling areas such as data privacy and security issues, to grow trust across sectors and citizens in order to mobilize collective intelligence to craft the design of future resilient neighborhoods.

4. **Continuously work on improving data standards and the access of it** across silos and across private/public

5. **Break the barriers between disciplines in order to maximize the potential of data analytics**

And most of all: **Always remember to take time to lay down a clear plan starting with a problem statement (looking at people's behavior and needs)**

Illustrations showing the potentials in connecting large datasets with site-specific data in order to create concrete design suggestions for the city of Copenhagen, improving air quality.

Looking at these needs combined with the urgency that lies in the aftermath of covid-19, this special issue of Geoforum attempts to make a contribution to a qualified use of data improving the understanding of people's everyday life, in order to better design and rethink future human-centered cities. To put the topic into perspective and to inspire a new practice around new data-based planning, we have invited 11 specialists sharing their work within the field.

1 | Understanding the fine-grained nuances

The COVID-19 pandemic has across the world has had permanent on the way we work, live, socialize and move about the world. It has also highlighted already existing socioeconomic inequalities in health and statistics show that isolation in many cases has led to a higher number of people feeling lonely and disconnected from the society. In order to create better inclusive public spaces, supporting the meeting between a diverse group of people, we need a better understanding on the fine-grained lived experience, seen from the point of view of numerous of people in society. In relation to this, we have especially three articles that highlights different data-driven methods to help support human stories:

Jane Kunze from Aarhus Public Libraries shares their work with children getting hands-on collecting and analyzing data about the sound of Aarhus. Both in order to teach a new generation about data literacy, but also to help create a "bigger story" of the physical and mental city – seen from the eyes of children.

Jonas Fritsch from ITU and **Kristine Samson from Roskilde University** have written an article putting awareness to the need to cultivate new ways of bringing the lived, felt qualities and atmosphere of urban spaces into city planning. They argue: if not doing this, what might happen to the

liveability of the city when the existing urban diversity is replaced by built and modernized architecture and design sharing the same qualities?

Jeff Risom and undersigned guest-editor **Liselott Stenfeldt** from the urban design consultancy **Gehl** contributes with concrete learnings from public life studies conducted during covid-19, and the importance of using *Thick data* in order to reveal social context and a zoomed in look on people's behavior in the time of crisis.

2 | Large datasets and the interplay with physical elements in the cities

Today, the omnipresence of sensors tracking our whereabouts has led to the almost overwhelming production of digital traces with high speed and volume commonly referred to as 'big data'. In this special issue we have especially four specialists look into how these larger set of data can help guide trends and developments over time, in order to improve how we design for people.

Karen-Johanne Kortbek from the Alexandra Institute is sharing the preliminary results and learnings in the recently started project CoronaLytics that aims to – by analysing data across wearables (SmartWatches and Smartphones), demographic and health data - investigate how the spread of corona affects people's behavior and lifepattern.

Rasmus Reeh from Copenhagen Solutions Lab, is writing about the potentials they (as a city see) in connecting site-specific data with large datasets revealing data pollution. The article shows us the potentials in zooming in on where and when people are exposed to pollution, providing a number of interesting perspective, such as how human activities in the city is a part of causing extra pollution and the interplay of physical installations (traffic light stops, bus stops or narrow streets) and consequences for air quality.

Lone Kelstrup and Lise Søderberg from Gate21 contributes with an article about a cross municipal project with focus on the use of dynamic data such as IoT data, mobile-phone data, crowd sourced data and floating car data in order to support green transition.

3 | Law, ethics and GDPR

As mentioned before, digital systems are producing immense streams of data that can help inform how we manage and plan cities. But still many city planners find their relationship with technology, data, and its use in communities to be an uneasy and complex one. A crucial aspect in regard to this, is the legal side of it.

Eirik Oterholm Nielsen and Christian D. Jensen from DTU Compute, Section for Cybersecurity tries to unfold what data we are actually allowed to collect and for what. And how can we ensure transparency when coming to storing and sharing citizen's data?

Hope the articles will bring you inspiration. Happy reading!