

## Title

### Introducing Shaping Smart for Better Cities

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## Abstract

This chapter introduces the ethos and approach to Shaping Smart for Better Cities, and highlights the main, overarching themes that have emerged from the chapters. It starts from a declaration of the effort and multi-disciplinary challenge the editors have set, by bringing the overall theme into the non-proprietary territory of reflecting on ‘better places’ rather than on discipline-specific issues. Doing this has allowed this collection to be diverse and pluralistic. It has also foregrounded a series of important and general issues and needs in the search for a more holistic and comprehensive perspective on the making of smart place. These include the crucial need for a deep and meaningful grounding of smart initiatives within their already existing spatial and social context, shaping place as a whole. This in turn can be looked at from the designer’s viewpoint as well as from a community co-production perspective, and the volume is organised along these two very much inseparable sides of the same, place-making coin.

## Keywords

Smart place, multi-disciplinary approaches, context, spatial design, co-production

### 1. Setting a challenge around smart place quality

Debates around the rather elusive, and flexibly interpreted, concept of ‘smart city’ can often be framed within a polarised landscape, where the ‘making’ side of smart is often – and to an extent necessarily – driven by a technological optimism, whilst the critical, policy-informing analysis of it focuses on identifying inequalities, deficiencies and flaws within the ‘making’ side. Kitchin (2015) has interestingly noted how useful it can be bringing these two ‘spheres’ closer and engaging with both, allowing them to inform each other. However, whilst closing the loop between making and critiquing can be essential towards bettering our understanding as well as execution of smart city initiatives, this requires a non-trivial inter-disciplinary dialogue between interaction designers, spatial planners, architects and urban designers, social scientists and computer scientists. The bringing together of disciplines and the many interpretations of space as well as digital agency, is naturally bound to be subject to debate. This needs an arena that privileges the contamination of ideas and is not over-concerned with homogeneity and all-round coherence. The tensions that stem from different interpretations of the ‘smart’ city and approaches to it, require taking a step back from narrower questions specific to one’s niche - technological or social – and ease back into a zone which is not proprietary and, as such, negotiable and enriched from different quarters and traditions. An

interesting possibility is engaging with the wide, certainly interpretable but also overarching notion of place, and what this means for creating opportunities for living better lives.

The notion of place is central to the theme of this book. Moreover, to encourage the aforementioned ‘contamination’ and diversity, we invited colleagues from diverse backgrounds and traditions to get their hands ‘dirty’ with the question: ‘how do we shape and design smart urbanity to actually make the city a better place, and better places in the city?’. As editors, we are aware of the difficulties of assembling contributions that translate those terms in potentially different and incomparable ways, as well as of course of the rather extreme interpretive flexibility to which those very concepts are hostage. But it is also a powerful question, and in a way a useful expedient. It confronts all of us – whatever our native knowledge – with a ‘so what’ challenge that takes us out of the internal coherence of disciplines and forces us to think more broadly. This book aims at making technologists, designers and social scientists return to the notion of ‘better’ places, as the ultimate answer, whatever ‘better’ means to them. In doing so, we have had the privilege of sharing this platform with architects, urban designers, planners, geographers, sociologists, Human-Computer-Interaction (HCI) specialists and urban informatics theorists, sharing content from over fifteen countries. This disciplinary and geographic diversity does not necessarily make this a ‘global’ or in any way a comprehensive response to the central question posed by the volume. Rather, it affirms both the pervasiveness and complexity of smart urbanism. These different inputs provide a nuanced interpretation of ‘smart’ urban environments, rather than a simplified, tamed and self-referential one. As such, this is neither a single issue, or a single-theory collection, where like-minded scholars elaborate and test a specific proposition. And it is not a technology-dominated book – despite all contributions referring to aspects of technologically-based smart – but rather a book on design, collaboration and policy processes aimed at ‘doing better’, through which technology is inscribed. Notwithstanding the diversity in language, discourse and vision of the contributions, some interesting themes emerge that can inform the critical making and shaping of smart places.

## **2. Grounding, and the layered complexity of place**

Throughout the volume, there is an awareness of ‘place’ as a complex and multi-dimensional arena, and the need to face its complexity rather than withdraw into simplified stories when defining and analysing it. Such stories can only apparently be coherent and working – as Cureton and Dunn (chapter 14) note when referring to digital ‘twinning’ – yet carry the huge risks of over-reducing reality to some model that cannot comprehend it.

This encourages zooming into place intended not as a large territory with a title or denomination, that can be scrutinised through a map’s bird’s view and a set of statistics, but as a multi-layered, inhabited, immanent, culturally and existentially experienced location where some form of ‘sense of place’ exists, collectively and individually. Places are therefore people and event-rich, and meant to be embedded with history and multiple experiences. Capturing or augmenting those through digital means requires a consideration of physical place, people and digital possibilities, as argued by Kostopolou and Fatah gen Schieck (chapter 6). The notion of ‘grounding’ has therefore permeated much of the content of this book. Grounding within what could be seen as a ‘hyperlocal’ scale is what makes our contributors confront diversity and complexity, and above all imagine their version – and

suggestions – of ‘better’. All chapters, in their own different ways, tackle the importance of embedding smart spatially, culturally and socially, in the inhabited, live location it becomes a part of. Despite the capacity of smart networks to transcend space, their functioning and character are nevertheless tied to place, as explored by Krause and Ewing (chapter 18). Many of the chapters in this volume emphasise the many nuances of what constitutes a deeply contextual approach.

In doing so, a number of the volume’s chapters relate to examples drawn from Africa, India or South America. Yet, we would argue that this is dealt with in a way that represents a refreshing departure from a global North-South dichotomy. The way we see this, and the reason why we have included these narratives, is not to explore a specific Global South perspective per se, or even provide a North/South balance or comparison. These contributions are instrumental within the volume’s challenge to reinforce the importance of looking at two aspects of contextualisation. The first relates to the shaping of smart within specific communities which are strongly bound to their territory – and are scarcely represented by the general and highly gentrified idea of the smart city user being a professional and highly mobile – to the extreme of nomadism – civic customer with little stake in place itself. These communities inhabit, often in relatively permanent ways, their locales, and continuously interact and invest in them, by choice or necessity. We believe that such communities are the majority of urban dwellers, and not just in Global South metropolises. The second is the value of community-grounded appropriation in shaping smart places in lateral and original ways, beyond any initial mainstream global propositions or standardised ‘product’ approaches. It does not have to be a ‘smart in a box’ solution to be valuable, and its value goes well beyond a ‘doing with less’ logic to highlight a ‘doing better’ one. This can be a function of necessity and scarcity in certain environments, as explored by Hernández- Garcia and Hernández- Garcia, in chapter 16, where the authors make a compelling argument for considering the parallels between innovation in informal settlements and the functioning of digital technology. We believe these to be key aspects of a more place-embedded smart design and shaping. On the one hand it can be argued that ‘micro’ South conditions exist everywhere, but beyond this, we feel that the opportunity of envisaging more grounded, endogenous ideas for organising, designing and running places is increasingly key within a global perspective on urban and social sustainability.

The grounding of smart within specific contexts requires consideration of the relationships that exist and evolve within those environments, in cognitive and in practical design terms. A variety of different agents/actants contribute to the making of digitally augmented places, and many of the chapters in this book explore the mechanisms through which this can be achieved. For example, through neighbourhood-based consultation and careful cultural analysis, as explored by Sakiinah, Mulder, van Boeijen and Darson (chapter 8) in their account of how locally sensitive and connected smart design practices could offer a rich and meaningful way to revitalise a commercial street in Rotterdam. Or by introducing perspectives where the design of local interactive projects is framed through the interplay between individual users, the space they inhabit and the temporal dimension, in the work proposed by Parker, Tomitsch and Fredericks (chapter 10). This volume collectively contributes to critical perspectives that move away from envisaging pre-packaged ‘solutions’. It does so by privileging place-based generative logics, rather than add-on views of brand-new technologies taking overall control. These logics can be enacted through ‘middle-out

engagement’ to facilitate a design-based approach that transcends more simplistic divides between top-down and bottom-up to engage a wider and more diverse range of local stakeholders effectively, as explored by Caldwell, Fredericks, Hespanhol, Chamorro-Koc, Sanchez and Castelazo (chapter 13). Or it can involve the local shaping of smart learning networks to favour more effective mechanisms of co-creation, as discussed by Ewing and Krause (chapter 18). What all these approaches have in common, is an emphasis on how essential it is to capture local energy in space. Guma (chapter 17) takes this argument a step further by revealing the contingency of infrastructure in informal spaces – continuously being made and remade in accordance with temporal and place-based specificities.

### **3. Shaping smart place top-down and bottom-up**

This shift to place, and deep contextual engagement with its qualities, is also reflected in how the volume is organised. Rather than being structured by the rather frequently encountered sections of ‘smart something’ – where the something is ‘transport’, ‘utilities’, ‘homes’, ‘enterprise’ and so on, each showcasing systems, products, solutions or specific methodologies to tackle that sector of activity, this book looks at how to make place, and how place could become smarter. This involves two sections that embrace a complexity of views in how different categories of ‘actant’ can deal with making places smart.

The first section is about the role of design – and designers – in this, whilst the second is on communities, not just seen as the local people to consult, but as co-producers, constructors and potentially disruptors of place and – therefore – of its smart version too. In many ways, this does represent an argument, a sensibility that embraces both sides of the equation. In fact, these are not mutually exclusive. Valdez, Wigley, Zanetti and Rose (chapter 12) effectively engage the overlap between critical social analysis and design choices when looking at developing a toolkit for inclusion in smart city projects. Almost in a diametrically opposite guise, but equally capturing the overlaps, Besplemnova and Pollio (chapter 5) observe how a local smart urban design intervention can have agency and an impact over wider – and more persistent – debates on the publicness of urban space. Nevertheless, we divided the book into these two sections as they provide a useful and simple framework in outlining and distinguishing these various agencies.

### **4. Designing smart places**

Intervening through an act of planned and proactive design under these premises involves first of all a holistic view of it, from both the viewpoint of what its elements and dimensions are and who designs it. Above all, it requires a vision which is not just functional and utilitarian, but involves a deeper, wider affirmation of values on what the ‘future city’ is or should be. As shown by Van Berkel, Lodi and Batal (chapter 4) this opens up the need, and opportunity, to tackle urban place as a combination, or re-combination of physical, digital and social dimensions. It promotes the need to see inhabitation not just as fruition or usage by a series of civic ‘customers’, but as deeply grounded sharing, learning, playing, and dealing with the existential aspects of being in the city. Many of the contributions are not about making some urban machine perform through some clever design, but about a set of deeper and intertwined relationships and play between physical spaces, digital layers and

connections, and individual and collective living. Naturally, in the effort of tackling such a multi-faceted task, designers can find themselves compelled to develop or update frameworks and toolboxes that will help them make sense of this and construct a design process to address it. When they look at tech-rich environments, these face two parallel challenges: understanding the increased complexity in terms of dimensions and layers of place, but also in terms of a re-combined design arena itself, with the need to bridge interpretations and practice. More than one chapter tries to contribute to this need, and it is interesting how different backgrounds and viewpoints produce frameworks that on the one hand are partial and different, but also potentially complementary, proving that the complexity of the field cannot be easily reduced to a single ‘proprietary’ formula. Aurigi (chapter 2) focuses on how both spatial relationships and affordances are challenged and extended by smart technologies, and what this might mean for a more holistic design approach. The chapter by de Waal and Suurenbroek (chapter 3) somehow flips the perspective to focus on bridging interpretations of smart urban design practices. It is meaningful as it stems from an effort to build a non-niched toolbox able to facilitate a dialogue and co-creation amongst different actors within the smart urban design arena. All contributions acknowledge how this feels at the same time as relatively uncharted territory, given the disruptive contribution of high technology, as well as an activity that needs and deserves some anchoring in what we know about the understanding, making and designing of places. After all, an aspect of place-grounding has to involve not pretending that reality has simply shifted 180 degrees and all needs to be re-invented from scratch. Smart technologies do not replace, they augment and deepen, and they influence the recombination of place-based elements.

This applies not just to the ‘harder’ elements of the built environment, but to its softer components too. We tend to think of technology as a replacement of the past, as the brave new frontier for urbanism. What this volume also shows is that history, memory, emotion and physicality are core components of the qualities of place that cannot be dismissed and, instead, might be amplified by smart intervention. In many instances, the use of digital tools to capture and celebrate such qualities, reminds us that grounding does not just mean the simple ‘locating’ or ‘placing’ of a piece of technology in a space that acts as its support, but rather ‘emplacing’ or embedding any technological means within the richness that already exists in the context. It involves acknowledging and dealing with the existential aspects of place, working with those meanings – individual and collective ones – that make cities places. Whether this is through foregrounding and enabling individual experiences and recent cognitive histories, as captured by Portela and Granell-Canut (chapter 9) in their discussion on empathy and atmospheres, or the celebration of place-based memory and subjective appropriation, by Luusua, Pihlajaniemi, Hakkarainen, Honkamaa, Juntunen and Huuskonen (chapter 7) the experiential qualities of place can indeed be deepened by digital augmentation. And this after all feels a much more thorough, concrete and – dare we say – respectful vision of civic improvement.

## **5. Foregrounding agency and context for co-shaping smart**

As designers or planners, we are inevitably tempted to envision and treat augmented design processes as a simple act of consultative place-making. What this volume captures very effectively is that the diversity of agency and stakeholders requires an approach that embraces more, not less, complexity, counterintuitively respect to any expectation of digital simplification or streamlining. Of course, this requires abandoning simplistic ideas of all-

encompassing and automated algorithmic management and decision-making. Going back to place shows that agency is complex and it is by understanding and successfully articulating its various aspects that more becomes possible towards shaping better smart places. The analyses by Caldwell, Fredericks, Hespanhol, Chamorro-Koc, Sanchez and Castelazo (chapter 13) and Simeone, Morelli and De Götzen (chapter 20), bring into focus the need to de-romanticise and de-idealise bottom-up approaches, towards making different types of agent and institutional approaches work together and learn from each other. The tourism-based analysis of Foth, Bilandzic and Guaralda (chapter 15) also points at the need to overcome simplistic narratives and easy global-local polarisations in favour of more nuanced approaches where smart platforms can be used to proactively enact synergies between diverse actors, and making local character and culture work with new ideas. Odendaal (chapter 11) and Guma (chapter 17) challenge any inclusiveness by consultation rhetoric as also widely practiced in smart urbanism – see for instance Mattern’s (2020) account of ‘Post-it Note City’ on the Toronto Sidewalk project – highlighting local appropriation of technological innovation as a key function of complexity, where a story that was designed as simple and replicable faces reality by being re-interpreted and re-designed by its ‘users’ and the inhabitants of a specific place. Button (chapter 19) and Hernández-García and Hernández-García (chapter 15) capture some of the tensions between local innovation and smart impositions, by celebrating the agency that emerges from the necessities of place, particularly in infrastructure-poor circumstances.

What the chapters - in the second half of the book in particular – capture, is recognition that agency evolves from the interface and interaction between human and non-human actants. The evolution of smart places is dynamic and negotiable, as captured by many of the authors in this volume. This does not underplay the role of the designer, but simply what a more nuanced reading of the design process can reveal, as iterative and dynamic. We argue, through the many chapters of the book, that this is not merely constitutive of more contextually-appropriate augmented design, but simply the creation of better places.

## **5. Towards a future of better smart places?**

This book therefore represents a series of perspectives for understanding and shaping smart places, which rather than being tidily aligned along a theoretical trajectory or a single theme, try to assemble an holistic view of contextualised, place-based smart informed by different frameworks and backgrounds. As such, we believe the message and contribution of the volume is a pluralistic one. Whilst working on the book, we have felt that the suggestion that successful smart places involve recombining the physical, the digital and the deeply personal, also might require an effort to recombine our knowledge, research and practice. This in turn needs bridging different interpretations through shareable narratives and principles. And above all it challenges us to try and maintain a rather delicate balance between an effort not to retreat too easily into a disciplinary cocoon, with its shared but sometimes exclusive language and way of thinking, yet make sure that those very thinking and knowledge are proactively included in the mix.

All the contributions in the book suggest that making better smart places – and cities – means embracing change and trying and re-invent things, yet grounding them in knowledge of design and social processes that can be decades or centuries old, as our places could be too. What is discussed and envisaged is very much more work-in-progress and exploration than

established practice, probably too tentative and dirty to fix any pre-packaged expertise offer. In many ways, the city is never a finished product, but one that evolves with technology, rather than because of it. Thus, beyond easy proclaims of brand new 'solutions' for our cities, we would argue that this degree of openness and enquiry is what is really needed to envisage really 'smart' cities and places that are resilient, functional, and dignified. We believe that each of the chapters encapsulated in this book, provide us with insights into how the many contingent smart places that evolve through design-based and co-productive measures, are not only indicative of recombination and augmentation, but also a function of contemporary urbanism.

## **References**

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