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Urban Planning and the Smart City: Projects, Practices and Politics

Andrew Karvonen 1,*, Matthew Cook 2 and Håvard Haarstad 3,4

1 Department of Urban Planning and Environment, KTH Royal Institute of Technology, 100 44 Stockholm, Sweden; E-Mail: apkar@kth.se
2 School of Engineering and Innovation, Open University, Milton Keynes, MK7 6AA, UK; E-Mail: matthew.cook@open.ac.uk
3 Centre for Climate and Energy Transformation, Faculty of Social Sciences, University of Bergen, 5020 Bergen, Norway; E-Mail: havard.haarstad@uib.no
4 Department of Geography, Faculty of Social Sciences, University of Bergen, 5020 Bergen, Norway

* Corresponding author

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Abstract

Today’s smart city agendas are the latest iteration of urban sociotechnical innovation. Their aim is to use information and communication technologies (ICT) to improve the economic and environmental performance of cities while hopefully providing a better quality of life for residents. Urban planners have a long-standing tradition of aligning technological innovation with the built environment and residents but have been only peripherally engaged in smart cities debates to date. However, this situation is beginning to change as iconic, one-of-a-kind smart projects are giving way to the ‘actually existing’ smart city and ICT interventions are emerging as ubiquitous features of twenty-first century cities. The aim of this thematic issue is to explore the various ways that smart cities are influencing and being influenced by urban planning. The articles provide empirical evidence of how urban planners are engaging with processes of smart urbanisation through projects, practices, and politics. They reveal the profound and lasting influence of digitalisation on urban planning and the multiple opportunities for urban planners to serve as champions and drivers of the smart city.

Keywords
digitalisation; innovation; planners; smart cities; urban planning

Issue

This editorial is part of the issue “Urban Planning and the Smart City: Projects, Practices and Politics” edited by Andrew Karvonen (KTH Royal Institute of Technology, Sweden), Matthew Cook (Open University, UK) and Håvard Haarstad (University of Bergen, Norway).

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Urban planning practices have always been closely intertwined with technological development. From the rise of nineteenth century infrastructure networks to the introduction of automobiles, streetlights, spatial analysis tools, personal computers, and the World Wide Web, planners have been tasked with mediating and aligning society and technology to produce contemporary cities (Coutard & Rutherford, 2015; Graham, 2001; Graham & Marvin, 1999; Kurath, Marskamp, Paulos, & Ruegg, 2018; Rutherford, 2020). Today’s smart city agendas embody the latest iteration of sociotechnical innovation with the promise of using information and communication technologies (ICT) to improve the economic and environmental performance of cities while hopefully providing a better quality of life for residents.

The rise of smart cities has catalysed numerous debates around the heightened role of technology firms in the management of collective urban services (Coletta, Evans, Heaphy, & Kitchin, 2019; Karvonen, Cugurullo, & Caprotti, 2019), the importance of global competition in attracting businesses and residents (Hollands, 2015; Söderström, Paasche, & Klauser, 2014), and the dangers of privatising infrastructure networks (Marvin, Luque-Ayala, & McFarlane, 2015; Viitanen & Kingston, 2014). At the same time, the influence of urban planners has been surprisingly muted, despite the fact that smart city agen-
A common characteristic of many smart cities programmes and projects is the reliance on experimentation to test new technologies in situ (Cook, Horne, Potter, & Valdez, 2018; Evans, Karvonen, & Raven, 2016; Karvonen, 2018). Lina Berglund-Snodgrass and Dalia Mukhtar-Landgren (2020) draw on neo-institutional theory to compare and contrast how the traditional ‘public sector’ logic of urban planning is influenced by an emerging ‘experimental logic’ that they characterise as ‘testbed planning.’ They argue that there is a clear disconnect between experimental activities and long-term planning practices and raise questions about how the knowledge generated in experiments can inform the long-term planning and development trajectories of cities. Katharina Lange and Jörg Knieling (2020) also examine the role of experiments as they relate to urban planning with a specific focus on how externally funded experiments are integrated into local development agendas. The authors use a multi-level governance framework to examine how Horizon 2020 grant funding from the European Commission was used to create an experimental low-carbon smart district in Hamburg. Their research shows how urban planners translate and rework international smart aspirations to align with long-term, context-specific development dynamics.

The final two articles of the thematic issue focus on the influence of digitalisation on urban planning. Ashlin Lee, Adrian Mackenzie, Gavin Smith, and Paul Box (2020) summarise the rise of platform urbanism to illustrate how the digitalisation of collective urban services creates new modes of governance. Their survey of urban data projects around the world reveals the dominance of corporate actors and the promotion of standardised digital practices that lock customers into specific modes of service provision while locking out competitors and alternative approaches. At the same time, they identify multiple examples of how public authorities can design and manage platform services to support community and social groups rather than corporate shareholders. Zipan Cai, Vladimir Cvetkovic, and Jessica Page (2020) examine digitalisation from a different perspective by focusing on land use development dynamics in the contemporary city. The authors use a ‘fuzzy’ statistical approach to develop quantitative indicators that reveal the influence of digitalisation on the broader industrial, economic, and social sectors. Their findings suggest the need to focus not only on discrete smart districts and programmes, but also on the more pervasive influence of digitalisation on all facets of urban life.

As a whole, the articles illustrate how the projects, practices, and politics of smart urbanisation are influencing and being influenced by urban planning activities and actions. Planning smart cities involves the development and application of digital tools and systems that can celebrate the diverse, distinctive, and inherently messy character of specific locales rather than support the drive towards more sanitised, generic, and one-dimensional global cities (Aurigi & Odendaal, 2020; Kaika,
2017). Moreover, smart cities are deeply influenced by ‘glocal’ practices of knowledge politics and urban planners need to engage with and influence those global knowledge networks that are shaping local urban development (Davidson, Coenen, Acuto, & Gleeson, 2019; Wathne & Haarstad, 2020). Finally, there is a need to recognise smart cities not as a technological agenda but rather as a sociotechnical agenda that involves fundamental social, political, and cultural changes (Evans et al., 2019; Glasmeier & Christopherson, 2015; Karvonen et al., 2019). Planners are ideally positioned to identify and shape the relations between technological innovation and society in smart cities by forwarding collective interests and serving as guardians of the public good.

Today’s smart technologies provide urban actors with the ability to generate and share data to inform existing decision-making processes and to hopefully make cities more sustainable, resilient, and liveable. In the not-so-distant future, more sophisticated applications of machine learning and artificial intelligence will have profound and far-reaching influence on urban metabolisms and human life. It is tempting for one to be pessimistic about the rise of the smart city and the increasing influence of big technology corporations on the intimate lives of urban residents. However, the evidence presented in this thematic issue suggests that who and what controls the smart city is still up for debate. Ultimately, this serves as a clarion call for urban planners to fully engage the networked city agenda for too long; it is time for this to change.

Conflict of Interests

The authors declare no conflict of interests.

References


About the Authors

Andrew Karvonen is Associate Professor and Director of Doctoral Studies in the Department of Urban Planning and Environment at the KTH Royal Institute of Technology in Stockholm. He conducts research on the politics and practice of sustainable urban development with a particular focus on infrastructure networks and how they integrate nature, technology, and society. His most recent book, edited with Federico Cugurullo and Federico Caprotti, is Inside Smart Cities: Place, Politics and Urban Innovation (2019, Routledge).

Matthew Cook is Professor of Innovation and leader of the Future Urban Environments research team in the School of Engineering and Innovation at the Open University, UK. Matt’s research interests are in innovation and the development of more sustainable urban environments. Working at the intersection of innovation studies and urban studies his work recognises the situatedness of innovation and the inherent spatiality of this complex socio-technical process. Much of Matt’s current work is concerned with critical perspectives on the governance of smart city innovations, such as urban energy and transport systems, and the policy mobilities that play a profound role in their (re)construction.

Håvard Haarstad is Professor at the Department of Geography, and Director for the Centre for Climate and Energy Transformation, at the University of Bergen, Norway. In his research, he is broadly interested in sustainability, climate change and energy, particularly in relation to cities. Among other projects, he currently leads the project ‘European Cities as Actors in Climate and Energy Transformations’, funded by the Trond Mohn Foundation.