

## Guest Editorial for Special Issue

### Finding the old in the new: Locating the smart city in the national and local trajectories of urban development and management

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The smart city concept has become a ubiquitous policy agenda across the world. From the Megacities of Asia to medium-sized cities across the Global North and South, politicians, planners and tech entrepreneurs have embraced and promoted the concept. As the concept has gained popularity, the early techno-optimism or -pessimism have been replaced by more nuanced and in-depth analyses of smart city projects. Furthermore, while early so-called smart cities took the form of new urban development such as Songdo in South Korea, most smart city projects today are implemented in a variety of existing urban contexts with long historical trajectories, a broad range of stakeholders, and variegated institutional contexts. Even if the term of smart city has been applied to a whole host of urban development and renewal projects, it has become clear that smart cities have not become the global homogenizing force envisioned by early proponents and feared by critics (Cardullo & Kitchin, 2019a; Cugurullo, 2018; Halpern et al., 2017; Joss et al., 2019). As Shelton et al. have pointed out most smart city projects do not occur on a tabula rasa but are rather interventions “...awkwardly integrated into, existing social and spatial constellations of urban governance and the built environment” (Shelton et al., 2015, p. 14). In their study of Songdo New City in South Korea Shin, Park and Sonn argue for an analytical framework that investigates the dialectic interaction between path dependence and new forms of networks where relations of power between different actors, old and new, are being renegotiated and agendas reformulated (Shin et al., 2015).

Perhaps the heaviest critique of smart city projects is that, despite more than a decade of projects, it is still unclear how they have helped solve or mitigate some of the most pressing urban problems (Clark, 2021). The promise of smart city technologies as a technological fix has indeed yet to materialize. Perhaps what is the most tangible outcome of the smart city debate has been how it has shaken things up and reignited much needed discussions on what really matters when it comes to urban futures. Another main critique of the smart city agenda is its focus on *scalability* and *replicability*. In the European Union’s Horizon 2020 Smart Cities and Communities Lighthouse program development of scalable and replicable technical solutions to urban problems was at the center (Cardullo & Kitchin, 2019b; European Commission, 2022). 48 lead cities and 72 follower cities across Europe with a combined budget of more than 1.2 billion EUR were to pathways to smarter and sustainable cities across 28 EU member states and associated countries<sup>1</sup>. The lighthouse projects were also expected to be amenable to local needs, but the tension between the EU’s ambition of scalable and replicable solutions on one hand and national and local contexts on the other speaks to the limitations of devising universal solutions. Rather perhaps, it would be more useful to focus on learning potentials? What can be learned about the myriad of ways that smart city projects shape and are shaped as they encounter different national and local urban development trajectories?

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This does not mean that we cannot find repeat patterns across many smart city projects. The faith in technology, big data, urban test beds, and entrepreneurialism as panaceas for urban problems seems strong across many cases (Halpern et al., 2013; March, 2018; March & Ribera-Fumaz, 2019; Martin et al., 2018; Shin, 2017). Yet, beyond those ubiquitous elements, the actual planning and implementation of smart city projects occur within the confines of historical and geographical contexts, encountering already established and highly contextual trajectories. Thus, rather than representing uniformity across scales, the concept of smart cities must be understood as interacting with and adapting to local and national contexts. With the term *actually existing smart cities*, Shelton et al. (2015) encourage us to develop a more nuanced and situated understanding of how smart city policies take root in particular places.

### **Continuities and discontinuities**

This special issue contributes to deepening and nuancing our understanding of smart cities – as they actually happen - by paying particular attention to the continuities of smart city projects and especially the socio-spatial specificities that both define and are defined by constructed environments. For example, India’s smart city boom cannot be separated from the history of the country as a software subcontractor for Silicon Valley, post-colonial legacy, and the long-lasting desire to provide “normal” urban conditions to increasing urban populations (see Datta, 2015; Smith et al., 2019). In South Korea, the state treats smart city as a new industrial sector and tries to use the type of industrial policies that has proven effective in heavy industries and electronic industries in the past [Shin, 2016]. In China, the smart city can be understood in the context of the state’s surveillance technology as well as urban economic growth through real estate development in the past [Hu, 2019]. In the UK, where the tradition of civil participation in planning is stronger and the IT infrastructure is rather outdated, the smart city is often considered a method for participatory governance and does not necessarily involve the application of cutting-edge IT (Bennett et al., 2017). In the US where IT firms have been prominent in the economy, but have recently experienced saturation in their traditional market, firms such as IBM see smart city as a new area of business and take the lead in persuading local governments into smart city projects (Clark, 2020). Understanding such continuities of the context of smart city will help our understanding of the way smart cities unfold in practice.

The articles in this special issue are not inattentive to discontinuities. Smart city projects can lead to shifts, changes, and disruptions in existing trajectories by moving attention and resources to new or hitherto underprioritized services and neighborhoods. Smart city projects may also reinforce existing inequalities both politically, economically, and spatially. In this sense, smart city as a policy and practice does not differ much from other urban development concepts that come and go. What matters is what happens when it takes root in a particular locality. How does the smart city insert itself, adapt to and alter existing practices and ways of thinking about urban development? Are existing relations of power reinforced or reconfigured? Does the introduction of the smart city concept alter spatial relations between center and periphery?

The original conceptualization of smart cities as ICT-assisted urban services envisioned to lead to increased efficiencies, innovation, safety, and optimization is just one of many approaches to smart city development as the articles in this issue show. Other agendas such as environmental sustainability, social equity, and economic development are now as central to smart city projects (Clark, 2020; Datta, 2015; Halpern & Günel, 2017; Martin et al., 2019; Martin et al., 2018; Taylor Buck & While, 2017). Haarstad and Wathne argue that smart cities today should rather be understood as “...a polymorphous urban strategy employed to reframe local contexts and reshape leverage for

*locally-driven solutions*” (Wathne & Haarstad, 2020, p. 108). As they argue, smart cities are not *one* thing but rather an urban development strategy in which local actors reframe pre-existing (perhaps incipient) targets to unlock funding and other resources. Smart city, rather as a unitary set of policies and prescriptions being imposed from above are shaped, contextualized and hybridized in their formation (Datta, 2015; Karvonen et al., 2020). This does not preclude that a smart city policy can be mandated or imposed from above, but rather that it does so within national and local contexts.

The collection of articles in this special issue seek to contribute to the literature on smart cities by tuning into the continuities. What is evident, for example, is that the focus on ICT and data as easy techno-fixes fade and focus on good governance, economic development, social equity, and sustainability become the main issues of concern. Another feature of the cases presented in this special issue is that very few of the smart city projects are led by tech corporations. The majority of projects and initiatives are state-led or driven by local and regional authorities. This does not indicate that the perils of corporate takeover of vital infrastructure and service in cities or concerns about data privacy are gone (cf. Cardullo & Kitchin, 2019b; Clark, 2021, p. 20211; Marvin et al., 2016), but rather that public authorities and agencies perhaps are not passive bystanders in all cases.

The advent of the smart city as an urban development concept did not foreshadow liberalization or privatization of public infrastructure and services. Neither do sensor networks and big data in smart cities necessarily radically alter the thinking and knowing of urban planning. Urban planning has always been obsessed with mapping and monitoring to anticipate crisis and catastrophe. On the other hand, there is no doubt that the advent of the smart city challenges existing planning practices (Karvonen et al., 2020), but so did earlier concepts. The articles in this issue speak to these in different regards. Smart city agendas provide both opportunities and challenges to existing governance and planning frameworks, but these vary across geographies. By overemphasizing what is new about smart cities, we also risk overestimating the shifts and changes brought by the smart city agenda.

Whereas the glossy high-tech part has been widely discussed elsewhere, the strategic fragmentation is undertheorized. How can we think about the varied ways in which a globally circulating urban policy concept such as smart cities become emmeshed with national and local agendas? What accounts for the varied approaches and outcomes of smart city projects across local, regional, and national scales? Another way of thinking of smart cities as a concepts is as a friction-device (Tsing, 2004). Thinking about smart cities through the lens of friction allows us to think about how motion occurs. In physics friction occurs is described as the force that occurs when two surfaces are moving relative to each other. What Tsing is concerned about is the friction that occurs when a universal interacts with the particular, in this context between the smart city as a universal and the local context. The forms of friction are dependent on the surface properties of both objects. It can be argued that the properties of the smart city have been thoroughly studied by now, but the properties of the particular are vital to understanding what forms of motion occur in different contexts and here we need of further research.

Tsing’s concept of friction highlights the contingent and awkward engagement of global connections. Friction can be productive -without friction no motion is possible. Thinking of the smart city as a friction device allow us to see how a globally circulating urban concept creates productive encounters – the smart city concept helps other agendas move as well as carving out varied and distinct pathways. Smart city can as such be argued to be *sticky engagements* (Tsing, 2004, p. 6). Smart city is a concept that moves, mobilizes, and potentially creates new forces and agents of

change, but never able to fulfill their promise of universality as friction occurs with the particular. The articles in this special issue speak to this understanding of the awkward engagements by paying attention to how the particular engages with the universal arguing that already existing national and local contexts matter for the direction of any given smart city project.

This special issue includes nine articles which have a wide range of regional and local contexts covering Portland and Chattanooga in the US, Coventry and Leeds in the UK, Amsterdam in the Netherlands, Bengaluru in India, Singapore, Ho Chi Minh in Vietnam, Hong Kong and Beijing in China, and Seoul, Songdo and Sejong in South Korea. The process of the evolution of the smart city concept that expanded merging or extending to the spheres of traditional agendas such as governance, sustainability and planned urban development is reviewed by Park and Yoo (2022), which can be an opener of the special issue articles. The following articles show how the old but still significant spheres of urban agendas of inclusiveness, governance and state-led developmental strategies are revived in the new smart city projects.

Four articles focus on the impacts of smart city projects on citizens. Inclusiveness and inequality in terms of accessibility to infrastructure by smart city mission in Bengaluru is evaluated in van Gils and Bailey (2021). Del-Real, Ward and Sartipi (2021) take IT-based smart city projects to the agenda of social inclusiveness touching existing racial, social and economic cleavages in Chattanooga. The significance of socio-cultural and socio-economic context is emphasized for inclusive and collective governance in Lee et al. (2022) from the case studies on four cities of Amsterdam, Seoul, Portland and Ho Chi Minh City. A use of IT smart city as an effective intermediary platform to relate top-down and bottom-up approaches in Beijing is reviewed in Zhou et al. (2021). Two articles have a common focus of planning in governance. Leung & Lee (2021) analyze smart city components in Hong Kong's strategic planning stages using the concept of a modified hierarchy of needs. In the case studies of Coventry and Leeds, Devlin and Coaffee (2021) link digital transformation to planning reforms for the fragmented governance. Other two articles associate the smart city with state-led strategies for economic development. Joo (2021) answers to a question that Singapore and Seoul are developmentalist smart cities. Lim, Edelenbos and Gianoli (2022) show the limits of the orchestrating role of central government in the changes of network governance in the three South Korean cities of Seoul, Songdo and Sejong.

Let us unfold more details of the articles one by one. The expansion of the smart city concept from its initial focus on ICT-assisted urban development into engagements with other domains of governance, sustainability and decent urbanization is the topic of the article by Park and Yoo (2022). The article traces how the smart city discourse has expanded and incorporated aspects from other dominant urban development discourses such as participatory governance and sustainability. A third element, the authors discuss is the subject of decent urbanization as a particular domain of interest to emerging cities in the Global South with particular challenges in terms of building adequate infrastructure for rapidly burgeoning urban populations. Park and Yoo (2022) end by concluding that the smart city agenda's initial focus on ICT is weakened as it incorporates other urban agendas such as the importance of local contexts and needs and in the context of the emerging economies a particular demand for affordability in rapidly expanding cities. What have boosted up the recent global popularity of the 'new' smart city is argued as the 'old' traditional urban agendas of people-oriented governance, sustainability, and desire for planned urban development in rapidly growing cities.

The remaining articles in this special issue touch on various aspects including inclusion, participation, governance, and state-led developmentalism. In their article, van Gils and Bailey (2021) study inclusiveness aspect in smart city with Bengaluru's participation in the national smart mission of the

Indian government. Bengaluru, which is regarded as the Silicon Valley of India is a burgeoning city struggling with the pressure on infrastructure from massive urbanization. The authors show that while there is a need for basic infrastructure and services in the city's periphery most smart city funding is allocated for improving the quality of legacy infrastructure in the city's already well-developed core, which exacerbates inequality in the access to basic infrastructure between center and periphery. The authors show that this is the result of existing governance practices whereby the administration by-passes the authority of elected representatives while prioritizing the interests of already powerful and institutionalized middle-class civil society organizations. This raises questions regarding Bengaluru's smart city projects' claims to inclusivity and participation.

Del- Real, Ward and Sartipi (2021) also reviewed the impact of smart city projects on citizens by investigating stakeholder visions of the smart city in Chattanooga, Tennessee. The authors found that rather than envisioning a high technological city, the stakeholders envisioned a city dedicated to the improvement of quality of life and environmental sustainability. Furthermore, there was a notable concern that smart city projects would exacerbate existing racial and socio-economic inequalities in the city. Given the current funding structures and market-based development models prevalent in Chattanooga and other medium-sized cities stakeholders perceived a risk of smart city projects that exacerbate the racial and socio-economic cleavages already existing in the local context.

Lee et al. (2022) on the other hand argue that smart city projects can lead to more inclusive development. By comparing four cities in Asia, North America, and Europe the authors find that the four cities' focus on developing integrated online platforms for collective governance were key in all cases. However, the authors also show that each city took different approaches to address specific 'pre-existing' socio-economic issues within the institutional context of each city. In some cases, these platforms developed from the bottom-up as is the case of Amsterdam and Portland whereas in the case of Ho Chi Minh City and Seoul the central city government were the main actor. In all four cases inclusive development was already a political priority prior to the smart city agenda. Technology was used in all four cases to share information, knowledge, and resources and to strategically mobilize existing actor's networks, regional-specific resources, and local institutions.

Under the framework of institutional planning, Zhou et al. (2021) study the dynamic relationship between top-down and bottom-up approaches in the Shuangjing International Sustainable Development Community Pilot in Beijing, China. Studying the implementation of a newly established neighborhood planning mechanism – Community Duty Planners (CDP), the authors discuss how this new planning mechanism that focus on intermediaries between neighborhood-level and bottom-up approaches can connect to longer-term top-down plans. Similarly, to Lee et al. (2022), there is a focus on intermediary actors as crucial to connecting the central smart city plans to local needs. However, in this case the authors stressed the human intermediary actors as crucial rather than the technology platform.

Focusing on the citizens' engagement and specific administrative context of smart city policies in Hong Kong, Leung and Lee (2021) evaluate whether the citizens' needs are met in smart city plans with a modified hierarchy of needs inspired by Maslow (1954). Studying four successive territory-wide plans in Hong Kong, the authors show a shift from Hong Kong focused strategies towards a more nationally oriented smart city cluster development plan controlled by the central authorities in China. This shift has been met with distrust and lack of public support by some citizens who perceive Hong Kong's special status as under threat from national incorporation. The authors concludes that more public engagement is required to understand citizens' hopes for the future.

State-led development strategy crosses some articles in this special issue. State-led smart city initiatives of Singapore and Seoul, South Korea are the focus of Joo (2021). The author argues that in both cases legacies of developmentalism characterize the trajectories of smart city policy and strategy. In the case of Singapore Joo (2021) argues that the Smart Nation initiative replaces Singapore's earlier Global City vision with close collaboration between government agencies and private corporations for economic development as the world's premier living lab for smart technologies. Similarly, Seoul is regarding smart city as an economic development opportunity. Here however, it is the Seoul Metropolitan Government who has been the main driver rather than the central government, but also having a stronger focus on citizen engagement, which highlights the diverging paths between the two cities.

Lim, Edelenbos and Gianoli (2022) focus on changing governance in the process of smart city development in three cities in South Korea: Seoul, Songdo and Sejong. Studying potential changes in governance models throughout the different phases of smart city development from 2003 and onwards, the authors find that governance models are very much determined from the national level, or what the authors state; smart city development follow the rules of government rather than governance. In recent years all three cities have focused increasingly on private sector and citizen engagement, but this trend is still in incipient stages. What characterizes smart city development in South Korea, according to the authors, is the legacy of state-led development.

The final article by Devlin and Coaffee (2021) takes us to England and a highly different context of devolution where planning and decision-making power is increasingly delegated to regional authorities. Through a case study of planning practice in the context of smart city development, the authors argue that the potential advantages of digital technologies in planning practice collide with existing governance models and this represents a significant obstacle to realizing the potential of these new technologies. Unlike the cases of Asian countries, English planning practice is characterized by more fragmented governance systems. Whereas digital technologies open for new and effective methods for planning practice, existing national legislation and accreditation systems for planning software impede implementation. Thus, the authors conclude that devolution of planning governance should to a greater extent coincide with local and regional authority regarding data and IT decisions, but also national standards for planning data that enables exchange across local and regional authorities on one hand, but also safeguards concerns about privacy and social equity.

### **Concluding remarks**

The articles presented in this issue all speak to the need to focus on continuities in smart city projects, not just the new. As mentioned earlier, most smart city projects do not occur on a *tabula rasa*, but are designed, planned, and implemented in dialogue and competition with other existing urban agendas. The developmentalist legacies of top-down state policy in Singapore, South Korea and China shape the smart city projects in Beijing, Singapore, Seoul and so forth. In the UK, processes of devolution shape the way new technologies can be implemented in planning practice. In Bengaluru, ongoing processes of infrastructure hybridization between market- and middle-class civil society actors and bureaucratic state actors underpin the city's smart city projects. In Chattanooga, stakeholder concerns around smart city projects are centered on questions regarding social equity and racial divides whereas in Hong Kong, smart city projects become embroiled in ongoing conflicts around Hong Kong's special status in relation to the mainland. These cases show how smart city projects become intertwined with national and local trajectories. In other cases, smart city projects

enable emerging actors and agendas as is the case of citizen participation in Seoul, Portland, Ho Chi Minh City and Amsterdam. Here, the authors argue, integrated technology platforms have opened up for new forms of participatory governance forging pathways for emergent forms of governance, yet they occur within already dominant forms of top-down (Seoul & Ho Chi Minh) and community-centered (Amsterdam & Portland) governance frameworks.

In the Smartness Mandate (2017), Halpern et al. argue that the conceptualization of smartness introduces “...a new technical logic with equally transformative effects on conceptions and practices of governance, markets, democracy, and even life itself” (Halpern et al., 2017, p. 111). At the conceptual level, this may be the case, but at the concrete practical level this new technical logic does not seem to simply replace existing logics. While a new technical logic may be at play, the articles in this special issue rather show how the smartness mandate becomes intertwined and braided into existing agendas. What the articles in this issue point to is moderate adjustments to already existing local and national agendas. Various agendas, whether they be governance reforms, sustainability, competitiveness are re-packaged to fit within the smart city umbrella thus creating a policy process that brings together the universalizing glossy language of high tech smart cities with the locally situated path-dependent messiness of urban development.

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