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To cite this article: Will Payne , Sarah Knuth & Dillon Mahmoudi (2020) Urban real estate technologies: genealogies, frontiers, & critiques, Urban Geography, 41:8, 1033-1036, DOI: [10.1080/02723638.2020.1820678](https://doi.org/10.1080/02723638.2020.1820678)

To link to this article: <https://doi.org/10.1080/02723638.2020.1820678>



Published online: 13 Dec 2020.



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## Urban real estate technologies: genealogies, frontiers, & critiques

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### ABSTRACT

The production, perception, and representation of urban space and urban property relations have been urgent “technological” questions since before the birth of urban geography as a discipline. The growth and differentiation of cities worldwide has been shaped by a long-evolving technical frontier, one often turned toward the accumulation imperatives and exclusions of private real estate development. Today, real estate in global cities is experiencing a fresh technological boom, featuring novel techniques for real estate mapping, valuation, financialization, and other key functions. This special issue explores and theorizes these technological developments in real estate, past and present. Collected papers articulate urban geographical scholarship with insights from critical political economy and technology studies, including digital geographies. The collection argues that the relational politics of property manifest in crucial ways through the development and application of urban real estate technologies, and that geography and urban planning are well positioned to offer insights into such technological and political economic mediations, both historical and unfolding.


### ARTICLE HISTORY

Received 31 July 2020  
Accepted 3 August 2020

### KEYWORDS

Real estate; technology;  
urban property; digital  
geography

The production, perception, and representation of urban space and urban property relations have been urgent “technological” questions since before the birth of urban geography as a discipline. From punctuated, spatially uneven modernization of buildings and infrastructure in cities around the world to successive revolutions in the mapping of regions, metropolises, and neighborhoods, both from above and below, cities and their growth and differentiation have been shaped by an evolving technical frontier. In the modern era in the Global North, private real estate practitioners have increasingly organized – and benefited from – this technological deployment and upheaval. For example, almost a century ago, the US real estate profession’s foundational quest to rationalize urban property markets and financing radically reshaped buildings and neighborhood plans, rewrote property law, and codified appraisal practice. This process crystallized durable spatial patterns of racialized injustice through processes of state-sponsored displacement and financial exclusion (Freund, 2010).

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Today, real estate in global cities, both established and emerging/aspirational, is experiencing a fresh technological boom. Novel techniques being developed for real estate mapping, appraisal, marketing, financialization, and exclusion complicate and obfuscate our understandings of urban property as a social, cultural, and political economic relation. Meanwhile, transnational barriers to capital accumulation and speculation fall, real estate players pioneer new ways of transmuted urban disinvestment into fresh profits, and futurist visions of smart, digital, and green cities collide with new technologically mediated displacements and resistance struggles.

The papers in this special issue of *Urban Geography* began in the material first presented for the “Real Estate Technologies” sessions at the 2017 American Association of Geographers Annual Meeting. This collection argues that the politics of property manifest in crucial ways through the development and use of urban real estate technologies and that geographers and urban planners are well positioned to offer insights into such technological and political economic mediations, past and present. Organizing questions ask how technologies developed and used for urban real estate: 1) reorder existing exchange practices, spaces, and relationships; 2) capture or create accumulation frontiers; and 3) render property technical, quantifiable, and governable. The issue brings together scholars broadly interested in connecting urban geographic investigation with research in critical political economy and technology studies – science and technology studies (STS); critical geographic information systems (GIS), digital, and critical quantitative traditions (Wyly, 2009); and beyond. Papers address both discursive and material relationships between technology and its politics, broadly defined, and real estate in its many forms. They consider a variety of urban contexts and real property regimes, both contemporary and historical.

Topics covered by papers include the role of digital urban information in transforming property markets in London, particularly real-time neighborhood mapping and automated property appraisal (Shaw); ways in which state technologies of rule have historically structured private provision of multifamily rental housing in the United States (Newman and Shatan); and recent experience with data-driven, housing-focused counter-mapping initiatives in the United States, evaluated as rhizomatic data assemblages (Dalton).

Through this collective intervention, we argue that developing a richer engagement with the role of technology, broadly construed, in reshaping urban property relations is both intellectually significant and politically timely for an engaged urban geography. We suggest that all too often, novel players and techniques in urban space aggressively claim the mantle of the innovative and technological, “rendering technical” (Li, 2007) and technocratic broader urban problems and contestations and removing them from democratic disputation. Such actors, both in the private sector and those aligned with evolving state-led urban growth machines, frequently promote new species of urban futurism. Meanwhile, they frequently harness such imagined urban futures for the purposes of capital accumulation, in forms historical and newly emerging – while foreclosing other possible urban and technosocial futures, including more just and livable ones. We argue that this production of techno-futurist urban projects is both a recurrent phenomenon and one chronically ignorant of its antecedents—“high-tech” modernization and its spatial expressions – understood here as an ever-unfolding frontier within a long, geographically differentiated history of capitalist urbanization.

Simultaneously, key data-driven innovations and techniques such as modern mortgage finance have revolutionized urban property and property struggles without necessarily being classified as technological, either in their rollout or subsequent normalization and diffusion across new geographies and segmented markets. This question of the imaginative and discursive placement of various real estate techniques and technologies carries new significance and material power in the contemporary moment. Notably, new high-tech players and varieties of (real estate) platform capitalism today build upon past technical foundations. At the same time, they draw new connections between real estate, information technology (IT), finance, and other putatively leading-edge sectors of capitalist accumulation – frequently, loci of outsize profits and rentierism today (see, for example, Fields & Rogers, 2019; Langley & Leyshon, 2017). We therefore make a case for a more expansive scholarly definition of technology when it comes to urban property, one attuned to continuities between contemporary real estate technologies and a longer history of technological frontiers and upheavals. Developing this lens is a crucial task in exploring and diagnosing real estate economies as and within late capitalism’s “post-industrial shop floors” (Stehlin, 2016).

Building on the contributions collected here and speaking to a broader emerging field, to further advance this arena of inquiry we propose technological objects including material artifacts, customary practices, and a host of formal sociotechnical systems such as legal regimes, land use planning ensembles, GIS, and contemporary digital information systems. Constitutive real estate practices and spheres for these innovations include mapping and listing of urban property, both analog and digital (Payne & O’Sullivan, 2020; Rogers 2016; Rose-Redwood, 2008), measurement, surveying, appraisal, fiscal financial geographies and taxation (Tapp & Kay, 2019), mortgage financing, code enforcement, tenant evaluation and management (Fields, 2019), and more. It is hoped that the papers collected here will advance this kind of broad-based, creative scholarship at the evolving frontiers of real estate practice and technological capitalism. Such exercises in mapping these new and intersecting forms, considering their possibilities, and forecasting and warning of their dangers will be crucial forms of urban scholarship and praxis for 21<sup>st</sup>-century metropolises.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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