

## Chapter 20

# Urban Planning 3.0: Impact of Recent Developments of the Web on Urban Planning

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### **ABSTRACT**

*This chapter addresses the challenges that changing technologies pose to urban planning. Urban planning continues to be influenced by an emerging creativity and knowledge-sharing culture that has an inherent connection to digital transformation. Technology certainly plays an important role in the production of content and its distribution. Such a transformation is giving urban planning a new look, which is depicted in the concepts of Urban Planning 2.0 and Urban Planning 3.0. In this chapter, this paradigm shift is explained and illustrated with a special view to identifying the ways these second and third generations of the Web affect urban planning. There is a plethora of pilot projects and new practices in Urban Planning 2.0, even if experiences as a whole are so few and far between, which makes it difficult to assess both the best practices in this field and the long-term impacts of their application. Recent developments associated with the applications of Web 3.0 and related technology trends in urban planning, which are designed to bring intelligence into planning, have hardly seen daylight due to both technological and socio-technical challenges associated with them. In brief, in the case of Web 2.0, we know on the basis of our initial experiences by and large how it may support urban planning; however, in the case of Web 3.0, technological uncertainties and systemic dimension of related applications make the concept more ambiguous and thus more challenging to assess what the true potential of this emerging Web trend is from the point of view of urban planning.*

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## **INTRODUCTION**

The context of urban planning is changing dramatically due to digitalization and a range of other megatrends. As a part of this global-local dialectic the micro-contexts, i.e. the urban communities themselves, are also changing. Such changes are reflected in such concepts of a city as digital city, ubiquitous city, intelligent city, smart city, knowledge city, informational city, network city and City 2.0 (Komminos, 2002; Aurigi, 2005; Lee, 2009; Anttiroiko et al., 2013; Carillo, 2006; Caves, 2004; Leadbeater, 2007). Technological changes will undoubtedly continue to occur giving the impetus to the development and use of new concepts for urban planning.

At the urban community level this paradigm shift is changing the very fundamentals on which community life and related governance and planning processes are based. The new paradigm is profoundly affected by the global-local and real-virtual dialectic (see e.g. Graham & Marvin, 2001). In this transformative process digitalization, immaterialization and 'real virtuality' change the entire realm of social ontology as social activities are increasingly interspersed with virtual sphere with a capacity to affect our mental, social and material existence. One of the implications of these changes together with the general increase in complexity and pluralism are changes in our understanding of urban condition, development, and governance, which for understandable reasons condition urban planning. As a part of this process the active role of citizens as community members, inhabitants and users and potential co-producers of services has become a vital part of our urban development agenda, even if this trend may be more pronounced in rhetoric than in reality. What is essential here is that technological advancements co-evolve with the creativity and knowledge-sharing culture, which may result in a paradigm shift in urban planning.

In this article we discuss the new trends in urban planning, a social activity that aims at determining the location of major urban functions – housing, transportation, manufacturing, and the like – as well as guiding the future development of the community. The focus of the article is on methods and tools of planning, with a special reference to recent generations of the World Wide Web (WWW). In this picture the impact of Web 1.0 on planning throughout the 1990s was mainly channeled through technocracy and planning professions, having only minor impact on urban planning. The WWW provided users with information and static maps. It was used to simply provide information to the public. As such, Web 1.0 certainly had its limitations. A major paradigm shift started to emerge through the impact of Web 2.0, which brought the idea of sharing of user-generated content to urban planning. It represented an interactive technology where users might generate content and customized maps to meet their individual needs. There are already many examples of the applications of planning 2.0, ranging from short messaging and blogging to co-design and wiki-planning. Yet, it seems that slowly also a new Web-related trend is emerging in planning, which goes beyond Web 2.0. It is referred to as urban planning 3.0, which is primarily about the introduction of semantic, systemic, social and ecological intelligence to planning. Within 3.0, we should see more robust searches and produce detailed searches using key words. In this article we put forward the thesis that the implications of Web 2.0 to urban planning is fairly easy to conceive, whereas the potential implications of Web 3.0 are much more difficult to pinpoint due to its systemic nature, which relates both to technological requirements and social embeddedness and feasibility of such new planning applications. (Cf. Miranda et al., 2010).

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