



Editorial

Big/open data for urban management

Big data generated by the growing use of information and communication technologies (ICT) and open data generated by open government initiatives are providing more and more opportunities for researchers to better understand and design cities around the world. Urban management efforts aimed at solving the problems of cities and managing city systems also benefit from the explosion of new data environment formed by big/open urban data, which can serve as an important complement to conventional survey data and data collected by various administrative departments.

The availability of big/open data to researchers has led to major transformations in the nature of urban studies, and these changes range from transformations in the spatial and temporal scales used to transformations in the levels of granularity and the research methods employed (see [Long and Liu \(2015\)](#) for more details). These transformations indicate that paradigms themselves may be in transition as well, thus suggesting possible new avenues for urban management issues.

Given this background, I organized this special issue with the generous support of Editor-in-Chief Shih-Kung Lai and have accepted four papers to address the state-of-the-art in using big/open data for urban management. It is worth noting that big data sources are not always “open” and open data sources are not always “big”, and most of these papers are based on open data rather big data. This is also the situation for most of the emerging big/open data-based urban studies.

This special issue is composed of four articles from the USA, China, Japan, and Germany, respectively. Chakraborty et al. develop a framework using open data and apply it to Mumbai, India. Their case study shows how open data information can be useful for understanding urbanization and for better integrating informal settlements into formal urban management and planning processes. Hao et al. propose a critical review of urban studies and planning practices in China using big data (as well as open data, although its use is not indicated in the title of their paper), and illustrate an overall picture of the studies and practices in this field. Yang et al. analyze and investigate the morphological features of multi-scale interactions between function and spatial configurations using points of interest in Beijing, an exploration which ends with the identification of four types of centers within the city. Zhang evaluates the density and diversity of OpenStreetMap road networks in China, an investigation which should be helpful for those who are interested in conducting urban studies in China using the OpenStreetMap open data.

While we are celebrating the many benefits that big/open data sources have provided to us, we as researchers should be cautious with regard to their potential biases. For instance, the studies on urban residents' happiness using geotagged Weibo posts suffer from data bias with regard to several aspects, including the duplicity of Weibo senders, the limitations of natural language processing technology, the representativeness of Weibo senders, and the black box of Weibo's API, all of which raise doubts about the reliability of such Weibo-based studies. [Long and Liu \(2015\)](#) have discussed possible strategies for combating these potential biases.

Reference

Long, Y., & Liu, L. (2015). Big/open data in Chinese urban studies and planning: A review. *ISOCARP Review*, 11.

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