The Institute for Sociology, Centre for Social Sciences, HAS

cordially invites you to its fifty-fourth *Jour fixe* event:

Péter Baji:

Using digital footprints to understand the consequences of urban congestion

A pilot study from Budapest

Academic symposium

Presenter: Péter Baji (Institute for Sociology, CSS HAS)

Discussants: Bence Ságvári (Institute for Sociology, CSS HAS) and Gábor Szalkai (ELTE)

Jour fixe

Abstract

In the recent urban geography and development literature, smart cites have become a fashionable subject of researches. This smart city paradigm is strongly connected to researches based on big data. Thus, the main objective of this paper is to strengthen the idea of usefulness of big data in examining and developing the urban transportation system as a part of smart cities. In this pilot research, Google Maps traffic estimation data was used to evaluate the special vehicular traffic flow patterns of District III in Budapest. On 45 defined road sections, travel time estimation data was collected and from it number of vehicles and the complete extent of social wasted time in traffic jams were estimated. According to the results this source of 'big data' is a feasible way of conducting 'smart' scientific research on a city road system. The most relevant advantage of this database is that it is continually generated on a deep spatial and temporal level. The conclusion of this pilot research is that spatial and temporal inequalities are evincible from this database, and heretofore unrecognized processes can be analyzed in a deep way, which can help urban planners to smartly rethink their conceptions about the transport system. The research proved empirically that, on workdays, there is a second wave of peak traffic on many roads, and, within our chosen district, there are congestion hot spot times and places. As the last conclusion, it is important to see that Google Maps data has limits, but by understanding them this method is a brand new way for geographers to examine urban traffic congestion patterns in a deep spatial resolution.

Keywords: smart city, urban congestion, Google Maps, travel costs, social wasted time

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