Exploring population distribution and motion dynamics through mobile phone device data in selected cities – lessons learned from the UrbanAPI project

Jan Peters-Anders, Wolfgang Loibl, Johann Züger, Zaheer Khan, David Ludlow

Mag. Jan Peters-Anders, AIT-Austrian Institute of Technology, Giefinggasse 2, 1210 Vienna AT, jan.peters-anders@ait.ac.at
Dr. Wolfgang Loibl, AIT-Austrian Institute of Technology, Giefinggasse 2, 1210 Vienna AT wolfgang.loibl@ait.ac.at
Johann Züger, AIT-Austrian Institute of Technology, Giefinggasse 2, 1210 Vienna AT, johann.zueger@ait.ac.at
Dr. Zaheer Khan, UWE - University of the West of England, Fenchay Campus, BS161QY Bristol UK, zaheer2.khan@uwe.ac.uk
David Ludlow, UWE - University of the West of England, Fenchay Campus, BS161QY Bristol UK, david.ludlow@uwe.ac.uk

1 ABSTRACT

The paper discusses experiences of development and implementation of public motion explorer (PME) tool as part of the EU FP7 project urbanAPI. This tool is applied on three EU cities with the objective to investigate population distribution dynamics and anonymous population movement patterns within urban environments as an instrument to map shapes of urban attractiveness and assessibility and as a support for transportation and infrastructure planning. The paper describes technical details of public motion explorer application by demonstrating the different applications for the City of Vienna, Bologna and Vitoria-Gasteiz and discusses the results of the first round of the user evaluation using Criteria Indicators and Metrics methodology. The initial results indicate that the application is intuitive and highly useful for city planning and provides the evidence-based information, which is either expensive or difficult to collect using other approaches.