

AIR TRANSPORT SHAPING SPACE: MAPPING THE COST DISTANCE AND TIME DISTANCE OF BUDAPEST USING AIR TRAFFIC DATA

Author: *Gábor Dudás**, MTA KRTK RKI ATO, Hungary

Keywords: Budapest, distance, GIS mapping, low-cost airlines, transport

Abstract: From the second half of the 20th century on, the development of transportation and information technologies have had a profound impact on people's mobility, changed the geographical and time constraints of flows of goods and information, intensifying the relationship of cities and making those more complex. Considering this, the research focuses on the different business models of network carriers and low-cost carriers and their space forming and modifying practices. We seek to understand how the proliferation of low-cost carriers is changing Budapest's position and role in Europe by altering its spatial relationship and air accessibility. The mapping of these changes requires the use of alternative distance concepts, because as technology advances, the distance between two points in space is no more determined by physical distance but by the time and cost that cover these distances. Thus the quantification and measurement of the cities' spatial relations requires the use of cost distance and time distance values derived from air traffic data. The aim of the research is to compare and map the cost distance and time distance of cities considering the different business models of the network carriers and low cost carriers. In the study based on quantitative research methods and internet data query we work out a data mining and GIS based mapping method which helps to visualize flows between European cities and Budapest, and reveal the spatial relationship between them.