Department of Transport and Supply Chain Management

URBAN MOBILITY IN EMERGING MARKETS

Integrated Transportation and Land Use (Area 1)

The area/ sub-topic “Integrated Transportation and Land Use” is part of the research being undertaken under area 1 of the newly established research group “Urban Mobility in Emerging Markets” based in the Department of Transport and Supply Chain Management at the University of Johannesburg

The negative impacts of urban sprawl on societal issues such as traffic generation, land consumption, environmental pollution, urban heat island, infrastructure development, and financing urban development have been addressed in several international studies. However, apart from urban policy making and decision making at higher levels, few solutions have been initiated to limit the impact of rapid urbanisation and on the length of commute travels sprawl in emerging markets and African countries. There is evidence in the USA that providing a balance in the job-housing ratio can shorten commute travels, but such evidence does not exist in African countries and particularly South Africa. The objective of this thesis/ dissertation is to create this empirical evidence in Johannesburg as case study area. The research questions of this thesis are: (1) Are the main travel behaviours such as mode choice, commuting distance, and commute and non-commute travel generation different in compact and sprawled areas of Johannesburg? and (2) Can jobs-housing balance stop or limit the negative impacts of urban sprawl on commuting distance? To answer the above questions, three districts of Johannesburg are selected namely: (i) one district located in the compact, central, dense parts of the city (ii) two districts located in sprawled and low-density areas of the periphery of the city. Out of the two sprawled districts, one has by far more housing units compared to the number of jobs, while the other one has more jobs compared to the number of housing units, or equal number of jobs and houses. The self-estimated location and number of jobs are pinpointed into online maps of the case study districts by the researcher. The data of at least 250 respondents in each district will be collected; that makes an overall sample of 750 subjects. The questionnaires and the related guidelines will be distributed in public places like schools, local grocery stores, and the like. The people in charge of these public places will ask people who live in the neighbourhoods to fill them out. The analysis methods include hypothesis testing methods such as T-Test, Chi-square test, and Proportional Reduction in Error (PRE) for research question one and Analysis of Covariance (ANCOVA) for research question two. The results will be published in an international peer-reviewed journal.

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