A Thesis Submitted in Partial Fulfillment of the Requirements of a PhD Degree in

School of Environmental Sciences, University of Venda
Department of Urban and Regional Planning

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South Africa
commuting in Gauteng Province,
Access and constraints to

Department of Urban and Regional Planning
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Abstract
The research presents problems of commuting in Gauteng province, South Africa. Gauteng province is the economic hub of South Africa and as such is faced with commuting challenges. The study further investigates interventions implemented to reduce access and constraints to urban commuting in the Gauteng Province. In order to answer the study main aim and research questions, primary and secondary data collection methods were employed. Primary data was collected making use of direct observation, checklist and interview techniques. Secondary data was collected from government records and publications, searching scientific articles from prime internet sites such as EBSCOhost, PROQUEST, SCOPUS etc. A total of 1550 questionnaires were administered to households in the study area. A two stage-random sampling process was used first to identify blocks and secondly to randomly select the dwelling units from the blocks. A sample size of 9% in each area was administered (i.e. Pretoria CBD, Mamelodi, Pretoria East, Mabopane, Hammanskraal, Midrand, Johannesburg CBD, Tembisa, Soweto, Alexandra and Sandton). The household questionnaire was tested in a pilot study conducted during May 2011 in Soweto and in May 2013 in Pretoria North prior to rolling out of the full survey in 2014. Commuting access and constraints to commuting were discovered to be related to four main reasons: (1) Fragmentation of space which leads to long commuting times, long commuting distances and congestion related issues (2) Spatial planning paradigms that promote spatial fragmentation rather than integration (3) Spatial mismatch and disjuncture between areas of socio-economic opportunity and residential areas, and (4) The existence of land use and transport policy gaps which makes the implementation of sustainable urban growth, development and management challenging. The existing commuting challenges are attributable to the cumulative outcomes of both the pre-apartheid and post-apartheid planning and policy interventions which either consciously or subconsciously resulted in reinforced or consolidated fragmentation of spaces. This situation obtains despite the fact that the spatial planning philosophies applied during the two periods were not similar. Long commuting times, long travel distances, high transport costs and travel interchanges challenges characterised commuting experiences for commuters in Gauteng and in particular low income earners from peripheral settlements. In investigating access and constraints in Gauteng three central questions were used in unlocking the transportation issues in the study area. First was an exploration of the influence and impact of the degree of built environment density or non-density on commuting. This was because density shortens distances between people and the places they need access to. Second, was determining the extent of how land use mixing contributed to increasing or reducing accessibility and mobility. Questions which had to be answered included how were different activities, amenities and people juxtaposed spatially? In addition, the question on what was the attraction between different parts of the mix
Key words: access, communications, fragmentation, integrated model, integrated model, Cape Town province.

The model aims to provide a framework for understanding the relationship between urban and transportation planning. The model is designed to assess the impact of transportation planning on urban development and its potential to influence the urban environment. The model is flexible and allows urban designers to assess the impact of transportation plans for short-term community planning and development.

The Metropolitan Development Plan (MDP) and the Regional Development Framework (RDF) are key documents that provide guidelines for urban development and planning. These frameworks highlight the importance of integrated planning and the need to consider the interdependencies between urban and transportation planning.

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