

VACANCY: Model transferability of destination choice in micro models

INTRODUCTION

Dat.mobility has recently added the tour based microscopic travel demand model Octavius to OmniTRANS transport planning software. This model can be used to forecast the number and type of tours (activity chains) along with their destinations and modes for each individual person and household within the study area. When building transport model, the area of interest is divided into zones. Often, a study area is defined, which is the area of interest and its nearest surroundings. In this study area, the zones are relatively small to ensure a high level of spatial detail in the results of the model. Moving further away from this study area, the zones will generally be larger (see Figure 1).

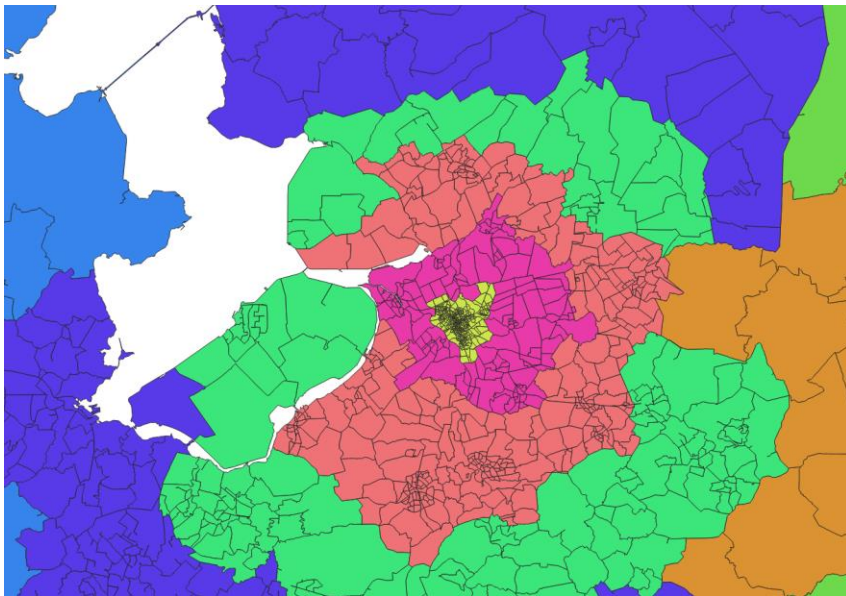


Figure 1: Example of zones with increasing sizes further away from the area of interest (yellow).

PROBLEM DESCRIPTION

To model the destination choice in Octavius, multinomial logit models have been estimated using OViN data¹, which is available on "PC4"-aggregation level (numeric part of the postal code) and in some cases "PC6"-aggregation level (full postal code). In transport models, zones are not uniformly sized. Rather, zones are small inside the study area and become gradually larger further from this area. This raises the question to which extent the choice model parameters estimated on the PC4 or PC6-data are accurate when applied to a model with both smaller and larger zones.

RESULT / OBJECTIVE

The objective of the assignment is to gain insight into the effects of the difference in spatial aggregation between the data set used for estimation and the zonal aggregation used in practice. Moreover, if any of these insights give reason to improve the quality of model outcomes, a method to overcome this difference can be developed or adopted.

ASSIGNMENT

The assignment consists at least of a thorough analysis of the effects of using a specific spatial aggregation level on the quality of the outcome of the travel demand model. If necessary and if time allows, solution methods to overcome the quality problems should be developed or adopted and tested in a case study.

INFORMATION

When interested in this internship assignment please contact: Peter Klein Kranenbarg (pkleinkranenbarg@dat.nl) or Jesse Voorhorst (jvoorhorst@goudappel.nl). More information on Dat.mobility and Goudappel can be found via www.dat.nl and www.goudappel.nl.

Footnote

¹ <https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksomschrijvingen/onderzoek-verplaatsingen-in-nederland--ovin-->