Contact | Search ▶

ENGLISH

Technische Universiteit Delft

Home > Back Issues > Volume 8 Issue 4

- ⊞ Journal information
- ⊞ Editorial board
- ⊞ Back issues
- ⊞ Instructions to authors
- ⊞ Search EJTIR

EJTIR Alert service

Subscribe to the
EJTIR Alert service

🖨 print this page

Car Allocation between Household Heads in Car Deficient Households: A Decision Model

Renni Anggraini*, Theo A. Arentze** and Harry J.P. Timmermans***

Faculty of Architecture, Building, and Planning
Eindhoven University of Technology
P.O. Box 513
5600 MB, Eindhoven
The Netherlands
* T: +31402473145
F: +31402475882
E: r.anggraini@bwk.tue.nl

** T: +31402472283
F: +31402475882
E: t.a.arentze@bwk.tue.nl

*** T: +31402473960
F: +31402475882
E: h.j.p.timmermans@bwk.tue.nl

📄 Full text pdf

Abstract

This paper considers car allocation choice behaviour in car-deficient households explicitly in the context of an activity-scheduling process, focusing on work activities. A decision tree induction method is applied to derive a decision tree for the car allocation decision in automobile deficient households using a large travel-and-activity diary data set recently collected in the Netherlands. The results show a satisfactory improvement in goodness of fit of the decision tree model compared to a null model. Overall, the probability of males getting the car for work is considerably higher than that of female in many condition settings. However, activity schedule, spatial and socio-economic variables appear to have an influence as well. An analysis of impacts of condition variables on car allocation decisions reveals that socio-economic variables have only a limited impact, whereas attributes of the transportation and land-use system have a relatively big impact. The propensity of men driving a car to the work place is higher than that of women. However, the relative accessibility of the work location by bike compared to car appears to have a relatively large influence on who gets the car for work. Household income and presence of children also appear to have significant effects.