

Modelling Car Ownership in Great Britain

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Abstract

Over the last 50 years there has been a tenfold increase in the number of cars in Great Britain, rising from 2.6 million vehicles in 1951 to 27 million vehicles in 2001. Over the same period there has been a steady reduction in the proportion of households without access to a car and a steady increase in the proportion of households with two or more cars. If such trends continue, it is likely that there will be increased energy consumption, increased problems with traffic congestion and atmospheric pollution, and reductions to the financial viability of public transport. Given the importance of car ownership to transport and land-use planning and its relationship with energy consumption, the environment and health, it is the objective of this research to develop econometric models of household car ownership and apply the models to generate forecasts across Britain to the year 2031. To achieve this objective, the research develops discrete choice models of the household's decision to own zero, one, two or three or more vehicles as a function of market saturation, licence holding, household income and structure, household employment, company car provision, and purchase and use costs. The models are validated to data from the 2001 Census and are used to develop a range of forecasts taking into account changes to the socio-demographic characteristics of Britain.

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