



**PATREC**

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**Abstract Template**

**Paper title:** Transport demand elasticities estimated by discrete choice models:  
theory and an application to off-peak travel in Sydney

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**Abstract (300 words maximum):**

**Theory:** The characteristic of the discrete choice model is such that each individual chooses one and one only discrete alternative. The resulting demand and elasticities estimates are conditional on a fixed level of demand. In such a case the aggregated elasticities can be considered to be market share elasticities. The relationship between a matrix of market share elasticities and a similar matrix of conditional ordinary elasticities is derived. The discussion will go some way towards clearing up some confusion on the expected properties of a matrix of aggregated choice elasticities when taking one's lead from the traditional micro-economic theory of the consumer.

**Application:** Drawing from a data set collected in Sydney (Hensher and Raimond 1995) a joint revealed and stated preference choice model for the off-peak travel market is estimated. Unlike for the commuter market, it is unlikely that price increases will have no effect on the aggregate level of demand for travel for non-work purposes. The change in the market demand is known as the generation effect and is represented by an elasticity of generation with respect to price. A secondary data set, the Australian Household Expenditure Survey 1998, is used to determine the expenditure shares and expenditure elasticities for the demand for travel by private vehicle and public transport alternatives. These estimates are used to fine tune the estimate of the generation elasticity, by way of theoretical inter-group substitution patterns under the conditions of separability between demand for transport and all other expenditure.