

Are Malaysians eager to use their cars less? Forecasting mode choice behaviors under new policies

ABSTRACT

In Malaysia, transportation accounts for almost 70% of carbon monoxide emissions. This study sought to discover whether intelligently changing policies for the private and public transport sectors can affect mode choice of private car owners in the Klang Valley, Malaysia. Results of a random parameter logit model identified the most significant parameters affecting respondents' utility measures. These were introducing a congestion fee in private transport mode; and also access, comfort and the frequency of the available public transport. Respondents' marginal value estimates showed that they are willing to pay up to 175% of their hourly wage to have a more frequent and more accessible public transport. Moreover, the value of travel time showed that persons with longer commute time by car and bus are willing to pay more to save travel time. This is estimated about 25650% of hourly wage of respondents. Simulation of results indicate that introducing the congestion fee has the largest impact both in modal shift and in reducing the number of cars used in the Klang Valley area. Overall results of this study suggested that any government intervention through innovative transport policy implementation such as pricing and providing more efficient public transport could result in 70% modal shift among current car users to public transport.

Keyword: Innovative transport policy implementation; Choice experiment; Random parameter logit; Commuter mode shift