

P9. Household Relocation and Cost of Travelling: a CGE Framework for Strategic Transport Appraisal

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Transport appraisal is a key aspect of determining the suitability of a transport policy or infrastructure project, most often done via a cost-benefit analysis (CBA). Urban computable general equilibrium (CGE) models have been used as an alternative for appraisal, with the goal of capturing wider economic benefits (WEIs) that are not typically captured in traditional CBAs. Their complexity however means that urban CGE models often lack features critical to the appraisal process. The poster presents a novel integration of residential relocation and complex travel behavior in a CGE model framework. Individual models with each of the two exist, where sequential, iterative application of the two may be used by an analyst in a cost benefit analysis; to the best of our knowledge, no framework however has combined both for transport appraisal purposes, despite plentiful literature on the importance of both in the development of an economy. A CGE model framework that integrates both endogenous residential relocation and complex travel behavior is proposed. A case study of Sydney, Australia, is presented to illustrate the importance of this integration. We find that without relocation, the benefits of projects can be greatly underestimated, leading to the possibility of incorrect negative feasibility evaluations.