

Evaluating marginal improvements to a transport network: An application to the Santiago underground

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Abstract

In "This paper describes a simplified methodology designed for quick investment appraisal of improvements to a transport network, and discusses its limitations and advantages particularly in the context of a developing country. The approach basically considers:

- a method to define the total population (relevant origin-destination pairs) affected by the project
- the selection of a low-cost background model to represent transport demand on a network at an aggregate level
- the choice of a suitable marginal demand model (in this case a discrete mode choice model) capable of providing the required sensitivity and accuracy to model the project
- the estimation of the marginal demand due to the project during all the years of the study horizon, and
- a sensitivity analysis to assess the robustness of the decision recommended using these two models.

Finally, the paper summarises the results of applying the methodology to the case of an extension to the Santiago underground; it was found that the project has a high social rate of return (almost 20 per cent). However, from the point of view of a private evaluation, it can cover its operating costs only."

Keywords Choice Model, Aggregate Level, Background Model, Technology Management, Mode Choice