

## Health Economics in the Cost-Benefit Analysis of Transport Schemes

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**Abstract :** This paper will seek how innovative methods from Health Economics and, to a lesser extent, wellbeing analysis can be applied in the Cost-Benefit Analysis (CBA) of transport infrastructure and policy interventions. The context for this will focus on the framework articulated by the UK Treasury (finance department) and the English Department for Transport. Both have well-established methods for undertaking CBA, but there is increased policy interest, particularly at a regional level of exploring broader strategic goals beyond those traditionally associated with transport user benefits, productivity gains, and labour market access. Links to different CBA approaches internationally, such as New Zealand, France, and Wales will be referenced. By exploring a complementary method of accessing the impacts of policies through the quantification of health impacts is a fruitful line to explore. In a previous piece of work, 14 impact pathways were identified, mapping the relationship between transport and health. These are wide-ranging, from improved employment prospects, the stress of unreliable journey times, and air quality to isolation and loneliness. Importantly, we will consider these different measures of health from an intersectional point of view to ensure that the basis that remains in the health industry does not get translated across to this work. The objective is to explore how a CBA based on these pathways may, through quantifying forecast impacts in terms of Quality-Adjusted Life Years may, produce different findings than a standard approach. Of particular interest is how a health-based approach may have different distributional impacts on socio-economic groups and may favour distinct types of interventions. Consideration will be given to the degree this approach may double-count impacts or if it is possible to identify additional benefits to the established CBA approach. The investigation will explore a range of schemes, from a high-speed rail link, highway improvements, rural mobility hubs, and coach services to cycle lanes. The conclusions should aid the progression of methods concerning the assessment of publicly funded infrastructure projects.

**Keywords :** cost-benefit analysis, health, QALYs transport

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