

Richard Frost

Associate Director

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Bio

Richard

Richard has over 30 years' experience in transport planning advice and infrastructure advisory services, with a particular focus on highway demand forecasting and economic appraisal. He has worked on highway projects around the world including the USA (Maryland, Virginia, Georgia and Texas), Canada, Chile, Brazil, Indonesia, Vietnam, China, Malaysia, the Philippines and Belize.

Jeff

Jeff joined Oxford Economics recently as a Lead Economist within the Transport Advisory team, focusing on toll infrastructure-related projects. Jeff is an expert in the valuation of qualitative aspects of travel and forecasting future travel demand changes within a disaggregated behavioural modelling framework.

Presentation

Modelling Managed Lanes Using Visum

Differentiating between various Values of Time (VoT) amongst individuals is essential for effective transport modelling. Individuals with a lower VoT often opt for less expensive but slower routes, whilst those with a higher VoT prefer faster, albeit more costly, paths. As such, two predominant assignment approaches have been adopted to accommodate the VoT heterogeneity. One method presumes a continuous distribution of VoT, as exemplified by PTV's TRIBUT assignment procedure. In contrast, the alternative approach categorises travellers into distinct user classes, each attributed with a constant VoT.

For toll road demand modelling, the treatment of VOT differentiation becomes particularly important, requiring a more rational incorporation of VoT profiles to model toll responses under various charging mechanisms effectively. This is especially important when assessing managed

lanes where toll rates are variable, sometimes in real time and are adjusted according to traffic conditions within the corridor.

In our presentation, we will showcase the utilisation of the TRIBUT assignment algorithm in calibrating and validating a managed lane system in the United States, demonstrating that TRIBUT can accurately capture user behaviour.