

# **A Discrete Choice Study to Assess the Impact of Reliability on Passenger Rail Demand**

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## Abstract

The Department for Transport (DfT) commissioned the Institute for Transport Studies (ITS) at the University of Leeds to undertake a research contract understand the impact of reliability on passenger rail demand. The discrete choice element of the study combined three elements, namely retrospective questioning (RQ), revealed preference (RP), and stated preference (SP), as follows: The RQ analysis involved asking travellers whether they had changed their regular departure time in response to previous experiences of reliability. If travelers answered affirmatively then we enquired as to the difference between their current and previous departure times, as well as any associated differences in journey time and cost. The RP analysis invited travellers to report their degree of satisfaction with reliability and punctuality, which we then sought to explain through regression against a wide range of independent variables.

The SP analysis invited travellers to choose between two alternative rail services for a given journey. Each service was described in terms of the standard single fare, scheduled journey time, and actual journey time for 5 repetitions of the journey. Journey time exhibited some degree of variability, with associated variability in lateness relative to timetable. Whilst RQ and RP were particular interests of the study, it was recognised that these analyses would be somewhat speculative and, in practice, our RQ and RP analyses were badly undermined by a lack of information in our data. It was left to our SP analysis to deliver the outputs of interest.

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