

Cost benchmarking of Network Rail's maintenance expenditure 2024 to 2025 - Technical report on our modelling approach for cost benchmarking

1. Introduction

1.1 This report accompanies our report on the cost benchmarking of Network Rail's maintenance expenditure in 2024 to 2025 and explains the statistical approach underpinning our analysis. Our analysis compares maintenance expenditure over time and across Network Rail's regions and maintenance delivery units (MDUs). It controls for exogenous factors such as network length, complexity and usage to derive predicted expenditure, which we then compare to actual expenditure to identify unexplained variances.

1.2 Our models have been reviewed by the Institute for Transport Studies (ITS) at the University of Leeds to ensure our analysis is robust. ITS concluded that we have taken an appropriate and robust approach to the development of a reasonable set of models, utilising both regional and MDU data, bearing in mind the variables available for inclusion in the model and the sample sizes. Their full assurance statement is available [here](#).

What is cost benchmarking?

1.3 Our cost benchmarking work falls within ORR's strategic objective of delivering value-for-money on the railways. An important part of our work ahead of the next funding period, covering the period 1 April 2029 to 31 March 2034, is to advise funders (for both England & Wales and, separately, Scotland) on how the activities Great British Railways proposes to carry on during the funding period will contribute to meeting the objectives in the funders' Statement of Objectives and whether the estimated costs of carrying on those activities represent good value for money.

1.4 Cost benchmarking has its limitations. Like any other statistical model, cost benchmarking is only as good as the data that it is based on. It is a high-level ('top-down') tool that is useful for identifying trends and outliers. However, measurement error (for example, by wrongly attributing costs incurred in one area to another), omitted variables (the absence of important cost drivers from the model), or too small a sample size, can all weaken the robustness of the findings. Statistical modelling has only limited ability to identify the reasons for its findings. This is why, where possible, we seek to combine our 'top-down' cost benchmarking with 'bottom-up' analysis of the business activities that give rise to these costs.

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