

# Performance and punctuality

Delivering train performance and punctuality are essential facets of modern passenger train services. With competition from other modes of transport, cancelled and late running trains cost money through lost customers and diminished reputations. Train and network operators require systems to measure performance and collect data on train running.

## The challenge

The performance challenge is two fold, first in real time, to record the progress of every train that operates and where the train performance deviates from the plan to understand the reasons why and put in place robust mitigation measures to eradicate delays.

Secondly, timetable changes are necessary in a modern railway system to match supply to demand. The use of simulation tools to predict the performance of a new timetable can avoid costly delays and compensation on the introduction of a new timetable. Modern simulation programmes allow operators to measure the effectiveness of planned changes and perform robustness tests during simulated perturbed operation to define contingency plans.



## How we can help

Our bespoke simulation tools are interactive and allow the modelling of innumerable variants of train service plans to be tested. Our systems are fast and user friendly, which allow the assessment of new timetables and short-term planned changes.

Calibration exercises by our team examine the performance of each specific train service and infrastructure during a typical period of operation enabling benchmark figures for lateness to be calculated. Reliability and punctuality data is gathered from the various systems in use and regression analysis carried out.

In terms of operational analysis, we have experience of assessing the facilities required in order to meet given service frequencies and timetable patterns. This expertise covers not only the provision of track capability, associated signalling equipment, rolling stock and train crews but also the evaluation of station facility provision and the avoidance of passenger congestion through good design and planning.

We are able to provide sustainable and consistent train service delivery specifications together with key performance indices for reliability, punctuality and safety. Our ability to develop train data, including collection

and examination, enables us to recommend robust strategies for improving current train service delivery. We have the analytical skills and operational knowledge to identify the means to achieve key performance indices and targets such as:

- punctuality;
- reliability;
- availability;
- delay causation;
- delay attribution - Direct;
- delay attribution - Accumulative;
- fault analysis; and
- resource performance.

