

## RAIL FAILURE MODELS

This report describes the different methods for modelling rail failures that are currently available. Examples are given and shortcomings of each method are described. It is shown how the methods can be combined to give the best possible predictions of failure, and throughout the report areas of further work are indicated.

The report concludes that:

- Each type of rail failure requires its own prediction model.
- Historical models, based on past failure rates, are useful for making predictions where track and traffic details are similar.
- Statistical models are good at extrapolating service failure data to other combinations of track and traffic details.
- Mechanistic models are useful when track or traffic details change beyond current experience.
- A combined modelling approach, as described in the report, gives a good working method.