

THE MOVEMENT OF TRACK UNDER THE INFLUENCE OF TRAINS

This report attempts to review the information available on the permanent lateral movement of track under the influence of trains and to identify critical gaps in our knowledge. Whilst it is not impossible for the track structure to fail in other ways e.g. failure of fastening systems, it is considered that track shifting is the only form of track failure which might present a specific hazard to high-speed trains.

It is concluded that the deflections measured under APT-E (Advanced Passenger Train) on the test track are consistent with the measurements made under the test wagon on the siding.

It is not possible to make precise judgements from the results available because of lack of knowledge of:

- The effects of mixed axle loads and lateral forces.
- The variability of track and train.
- The unexplained 'strengthening' of the siding.
- The differences in static strength and structure of the test sites.