

# THE BEHAVIOUR OF CURVES ON THE WEST COAST MAIN LINE – CARNFORTH TO CARLISLE – REPORT ON LATERAL DISPLACEMENT

This report sets out the results of a programme of work to monitor the behaviour of curves and straight lengths of track on the West Coast Main Line, between Carnforth and Carlisle. Measurements were taken of lateral displacement, change in cross-fall etc. It is concluded that mean lateral displacement of curves is generally small and it is inward in direction i.e. towards the low rail. Differential displacements were larger and perhaps more significant than mean displacement.

Displacements had no apparent relationship to curve radius, cant deficiency, cross level or direction of slew at the time of maintenance, but there was some indication that standard deviation of lateral displacement was higher for high-speed curves. Because of over-speeding, cant deficiencies of 185mm were observed at one site.