

THE RESULTS OF MEASUREMENTS OF LATERAL AND VERTICAL BASEPLATE FORCES IN A CURVE OF 362 METRES RADIUS FOR A RANGE OF FREIGHT VEHICLES

As part of the remit for the Axle Load Working Party to specify limits on vehicle/track forces a test programme was undertaken in October 1976 to measure the vertical loads and lateral forces exerted by a range of freight vehicles in a sharp curve. In addition force measurements were obtained as experimental data for use in the development of non-linear curving theory applicable to the passage of vehicles in sharp curves.

This report presents the results of lateral curving forces produced by a series of freight vehicles, at a range of speeds, in a 362m radius curve, at Rotherham in October 1976.

The majority of the vehicle axles produced gauge-spreading forces on the track. The largest lateral forces were produced by the 4-wheel cement wagons with Gloucester pedestal suspension. The smallest lateral forces were produced by the COV AB with taperlite suspension.