

AN INVESTIGATION OF THE INFLUENCE OF REDUCED TRACK TAMPING ON SPRINTER VEHICLE MAINTENANCE

This report describes a first order estimate of the likely increase in vehicle maintenance costs that would result from a controlled relaxation of track maintenance activities. Detailed calculations have focused on Class 150.

Trials are currently under way where a 20 mile section of track is subject to reduced tamping effort. Measured deterioration has been used to provide inputs suitable for use with the vehicle dynamics programs (VAMPIRE) so that increases in component forces can be predicted. Together with gathered knowledge of current vehicle maintenance activities and related costs, these are used to estimate likely vehicle maintenance costs for reduced track quality.

This preliminary analysis suggests that, for vehicles running on track initially of the quality of the St Pancras - Trent line, a 20% reduction in track quality would cause an increase in bogie maintenance cost of between 8% and 33%. The variation is a function of laws governing component deterioration, and it is believed that the most realistic relationship is a little less than linear - ie a 20% reduction in track quality gives an 18% increase in bogie maintenance costs.