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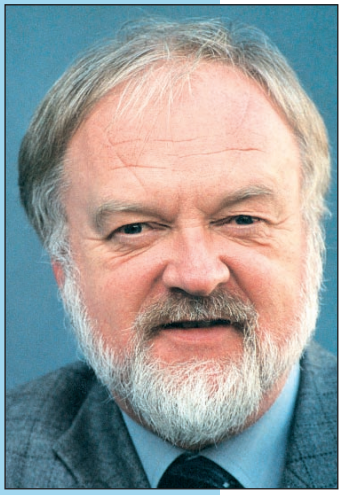
Foreword: Maintenance and Renewal of Track



Railway infrastructure costs are a major element of the fixed costs of the railway system. Consequently every railway network strives for higher utilisation of capacity, so as to bring in sufficient income at least to cover operational and maintenance costs. The respective elements of the network need to be so configured, that the capacity of individual route sections and pinch points are mutually consistent.

However when infrastructure work needs to be undertaken, to replace defective components or to carry out other rectification work, track capacity is reduced because of the associated track closures, or temporary speed restrictions or single-line working imposed for the work to be carried out. The network operator and the infrastructure contractors and suppliers must constantly strive to reduce the frequency and extent of maintenance activities, to co-ordinate their activities, to shorten required line closure periods, and to improve job planning.

Objective measures of the severity of interference with planned operations have been developed, leading to a cash value of the impact; consequently it is possible to optimise maintenance strategies in a scientific manner.

Selection of the actual type of track structure is critical for impact on operations of maintenance and construction activity. Slab track ensures long-term stability of track geometry and reduces maintenance requirements to a minimum. In the case of ballasted track, well-honed maintenance processes are now available, for which high output track maintenance machines have been developed. A diverse industrial sector devoted to infrastructure maintenance has developed, and co-operation between the network operator and industry is relatively strong.

Inspection processes produce detailed information, which together with measurement data using GIS technology, enable good advance planning of maintenance activities. This ensures that appropriate plant is made available for the work, that proper worksite planning will have been carried out, and that accurate advance information can be given to train operators about the extent of the required line closure or of any necessary journey time extension.

Job planning obviously takes into account the train timetable, so that long distance passenger trains and important freight trains only encounter a single disruption on account of track works on any one journey. Special events like football championship matches etc and public holidays need to be taken into account. At such times with additional trains operating, the timetable needs to be adhered to even more exactly than normally. Unfortunately these events often take place in the best time for site work, and as a result the volume of required work is intensified later, with corresponding difficulties of co-ordination.

The ability to make long term plans for infrastructure maintenance work has often suffered in the past from lack of available funds or uncertainty about budget provision. This situation should improve under the Capacity and Funding Agreement (“LuFV”). This should give certainty over a 15 year period, guaranteeing the network the politically required quality.

It is evident that proper maintenance in a time of conflicting demands comprises much more than technology alone. Accordingly we need a thorough knowledge of good practice in this subject, and this special issue of RTR makes an important contribution.