Briefing Note

RAIL SAFETY AND STANDARDS BOARD

GERT8006 issue 4
Route Availability Number for Assessment of Compatibility between Rail Vehicles and Underline Bridges

Background

The Route Availability (RA) system provides a simple method for undertaking an assessment of compatibility of the weight of rail vehicles with the load carrying capacity of underline bridges so that a bridge is not overloaded.

A vehicle's weight is expressed as an RA number, which is determined by comparing the vehicle's effects, based on axle loads and spacing, over various span lengths, to the effects of a standard load model over those spans.

Similarly, the load carrying capacity of an underline bridge is expressed as an RA number at the permissible speed(s), determined by applying the load model, including a dynamic increment of loading to account for vehicle speed.

What is it about?

The requirements for compatibility of trains and underline bridges are included in the Infrastructure National Technical Specification Notice (NTSN), based on normal European practice. The NTSN permits an alternative approach, based on historic GB practice, and this standard sets out those requirements for the GB mainline railway.

The RA model is a simple pattern of loading that represents the vehicles using the GB mainline railway It is a more economic approximation than the alternative European load models set out in BS EN 15528:2015, which are not as granular or as suitable for locomotives and passenger trains.

A process to determine the compatibility between vehicles and bridges with the assigned RA numbers is set out in the complementary Rail Industry Standard RIS-8706-INS issue one *Route Level Assessment of Technical Compatibility between Rail Vehicles and Underline Bridges*.

What has changed?

Issue four of GERT8006 contains amendments and additional requirements and guidance for better clarity. This includes clarifications on the application of loadings to remove potential incorrect results from the calculation.

What are the benefits?

Perpetuating availability of the RA system provides a simple, proportionate and economic means of assessing compatibility between rail vehicles and underline bridges.

Who is it for?

This standard is targeted at engineers who need to determine the RA number of either rail vehicles or underline bridges.