

AN INVESTIGATION INTO THE EFFECTIVENESS OF LINESIDE BARRIERS IN CONTROLLING THE NOISE FROM HIGH SPEED PASSENGER TRAINS

During discussions on the proposed Channel Tunnel project, concern was expressed in many quarters about the noise from trains on the associated rail link from London to Folkestone. Although no regulations for noise emission from trains were in force at that time, it was felt that legislation could be introduced to cover this new works scheme, similar in framework to the Land Compensation Act for new road works. With this in mind it was felt necessary to investigate means of reducing noise impact from the new railway in the event of the noise levels exceeding the maximum set down in any legislation.

Barriers placed between the source and the receiver have been used successfully in the past for reducing noise levels from a variety of sources, including railway noise. Much of this work has led to the production of design curves. However, on looking through the available data it was felt that none of the information could be generalised so as to be applicable to this situation. Thus an investigation was carried out to determine the likely reduction in received noise that could be achieved by barriers of simple design. This report describes that investigation, presents easy-to-use barrier performance curves and details the subsequent work aimed at determining a theoretical model for the prediction of barrier attenuation for wheel/rail noise.

The conclusions of the report are fairly lengthy, but the final paragraph states: "As a general statement of the success or otherwise of the experiment, it can be said that we are now in a position to estimate the effect of barriers for high speed passenger trains. Where information is required for other types of stock, less reliable estimates can be made but these estimates would probably be sufficiently accurate to judge whether a barrier would provide an economical solution to a particular noise problem."