

# THE EXAMINATION AND COMPARISON OF RIDE COMFORT OF SEVERAL PASSENGER VEHICLES IN RELATION TO SPEED AND TRACK CATEGORIES

Renewal of trains involves selection of vehicles to give an acceptable ride for the customers. Several factors govern vehicle ride, the principle ones being track geometry and suspension. Improvements to the suspension of passenger vehicles are likely to be reflected in increased passenger comfort. Consequently it was pertinent to ask if the ride quality had improved sufficiently with modern vehicles to permit a reduction in track maintenance and still achieve acceptable passenger comfort. A reduction in track maintenance would result in significant savings, thus an attractive proposition.

The Research Division's vehicle dynamics modelling package is used to predict the response of vehicles to track input. The programmes were used to investigate several types of vehicle to assess their relative ride performance, on a range of track representing poor quality rural routes to high standard main line track.

The computer modelling of vehicle ride established a ranking of vehicle performance which shows improved ride of vehicles with secondary air suspension over more conventional suspension arrangements.