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Working Party on Rail Transport
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DETERMINATION OF RAILWAY INFRASTRUCTURE CAPACITY INCLUDING ASPECTS RELATED TO THE FEE FOR THE USE OF THE INFRASTRUCTURE

Addendum 1

Transmitted by the Government of Spain

Please note that the distribution of documentation for the Working Party on Rail Transport (SC.2) is no longer "restricted". Accordingly, the secretariat has adopted a new numbering system whereby all working documents other than reports and agendas will be numbered as follows: TRANS/SC.2/year/serial number. Reports, agendas, resolutions and major publications will retain their previous numbering system (i.e. TRANS/SC.2/189).

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SPAIN

5. FACTORS INFLUENCING THE CAPACITY OF A ROUTE

The capacity of a section and of a line in general is not a static concept, unvarying with time. On the contrary, it is a dynamic concept influenced by a series of factors which vary with time, justifying making it the subject of stringent follow-up and periodic monitoring.

A series of factors exists in respect of a line and all the more in respect of a section of line, which have a static influence on running and carrying capacity. The main factors include:

5.1 STATIC FACTORS

A. Installations

Single or double-track lines. The structure of our network varies according to the investments made.

On single-track lines, capacity varies according to modifications affecting:

The distance between stations and overtaking stations to enable trains to pass each other. This distance varies in terms of whether such stations are open or closed.

The type of block on a route: CTC, automatic block on single track, manual electric block and telephone block.

In the case of block by CTC or automatic block on single track, the distance between the stop signals will affect the sequence of trains.

On double track lines the capacity varies according to modifications affecting:

The distance between stations and overtaking stations to allow higher-speed trains with fewer stops to pass slow stopping trains.

The existing type of block: automatic block, two-way CTC on double track, telephone block.

In the first two types of block, the distance between the stop signals will influence capacity.

B. Traction

In addition to the so-called static factors the line comprises, it should be specified that there are other factors, of a dynamic nature, which therefore vary with time, and cause considerable fluctuations in the values of the capacity obtained with the static factors.

5.2 DYNAMIC FACTORS

A. Train mix

The characteristic aspects of traffic on a line are essential for calculating its capacity.

The value of the capacity over a specific section varies in terms of the operation of homogeneous or heterogeneous traffic on that line.

However, the train mix over time is not constant given the inclusion of new services and the elimination of others. For example, mention may be made of the sales periods for citrus fruit or the services to coastal beaches established on certain routes during the summer period.

B. Installations

The state of the track does not remain unchanged over time and on some lines it deteriorates constantly until repairs are carried out. During such periods, the route is subject to a series of speed limitations which are the result of precautions which, incidentally or permanently, modify the time during which each block section is occupied and therefore the capacity of the route.

Conversely, the elimination of a series of repairs and the related precautions may be observed on many lines, increasing train speed indices and, similarly, specific capacity value.

In comparing the indices of the two successive reports, a reader unfamiliar with the operation may be surprised to observe considerable variations in the capacity of a line with no apparent reason for the modification of its equipment.
