Availability and Punctuality of the Transrapid system – Requirements and operating experience

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ABSTRACT: To evaluate the service quality of railway systems the punctuality of the train operation is one of the most meaningful criteria. The punctuality results from the reliability and availability of the technical system as well as from the operating program and a number of external preconditions.

The punctuality requirements on the Transrapid as a fully automated transportation system with its own non-intersecting guideway trace are basically strict. After only two and a half years of commercial operation in Shanghai the Transrapid system has actually shown a very high punctuality based on a high availability of its technical subsystems considering the specific operation conditions.

While reliability and availability of technical systems are defined by international standards there is, however, a wide range of different punctuality definitions. It is to say that this item is very important for the comparison of punctuality data of different transportation systems.

After explaining the common expressions of reliability and availability the presentation describes the most useful definitions of punctuality for railway systems. Based on these commitments an overview of the punctuality and availability data of different international railway projects, especially airport connectors, in comparison with the Transrapid Shanghai is presented. Finally an outlook to the punctuality requirements of the German Transrapid project in Munich is given.