

tunnels

FOR HIGH-SPEED RAILWAYS

THE DECISION AIDS FOR TUNNELING (DAT) – INTRODUCTION AND RECENT APPLICATIONS IN PORTUGAL



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ABSTRACT

The Decision Aids for Tunneling (DAT) were developed in the early 1990's and have been further improved since then. The DAT consider geologic and construction uncertainties and based on this, provide cost and time distributions associated with tunneling. Individual tunnels or tunnel networks can be considered. The paper will briefly introduce the principles underlying the DAT and show a few example applications. In particular, the application to a section 50 km long near Leira of the RAVE (Rede Ferroviária de Alto Velocidade) line, Lisbon to Porto will be described. In this case, the DAT have, actually been extended to also consider other types of structures, namely, viaducts, cuts and embankments. This extension makes it possible to use the DAT for any linear or networked infrastructure construction subject to uncertainties. While the application to the RAVE section at Leira was based on ad-hoc modifications of the DAT, more basic developments have been taken place since then and will be applied to the RAVE section Porto-Vigo. The basic characteristics of these new developments will be briefly summarized.