

# Preface

Accelerated Pavement Testing (APT) provides pavement engineers and practitioners with valuable information concerning the behavior, performance, and life expectancy of pavement structures in a very short period of time, by means of controlled loading conditions. This results in improved understanding of pavement structural behavior and response under different loading and environmental conditions, comparison between different design methods and evaluation of new materials and specifications, and identification of construction method's deficiencies and sources of variability.

The previous has been highly valued by several transportation agencies where the development of an APT program has been preferred to the option of analyzing pavement structures in the long term, under the understanding that an APT test does not necessarily equal a long-term pavement performance study. Therefore, in most recent years, several APT programs worldwide have been established or are in the process thereof.

The data that can be generated by an APT facility is incredibly rich and has the advantage that it very closely resembles the true process that pavements are subjected to during their service lives. Consequently, more and more countries are relying on their APT facilities to develop or calibrate their own pavement analysis and design methodologies to ensure that the developed method and their expected results are reliable and trustworthy, based on their local materials, traffic patterns, construction practices, and environmental conditions.

Furthermore, with global increase in infrastructure construction prices, APT capabilities have been identified to be very effective in discriminating between different alternatives to ensure pavement performance, identifying the most cost-effective methods, and as validation tools for pavement designs in new construction and rehabilitation projects.

Consequently, at the National Laboratory of Material and Structural Models of the University of Costa Rica we feel deeply honored to host the Fifth Edition of the Accelerated Pavement Testing (APT) Conference. The conference is organized by the Transportation Research Board (TRB) through the Standing

Committee on Full-Scale Accelerated Pavement Testing (AFD40). The committee is concerned with the full-scale testing of traditional and innovative pavement systems that reflect various construction conditions and maintenance practices, where testing can be performed using conventional or accelerated methods utilizing mobile or fixed equipment under in-situ controlled conditions. The fifth edition of the conference follows a very successful meeting in Davis, California, where APT future trends and needs were discussed, based on the experience developed at over 25 APT programs worldwide.

The Fifth Edition of APT Conference originally received 76 abstracts from 16 countries. After rigorous review of these abstracts and full contributions by a scientific committee of experts experienced in APT operations, data analysis, and/or implementation of findings from APT experiments, 58 papers were finally accepted for presentation and discussion at the conference and publication in these proceedings.

We would like to thank each of the authors for sharing their APT experiences, and we would also like to express our gratitude to the APT2016 Conference Scientific and Organizing Committees for reviewing the papers and helping to maintain the conference series quality standard.

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