National Conference on Preservation, Repair, and Rehabilitation of Concrete Pavements

St. Louis, Missouri
April 22–24, 2009

Sponsored by:

Federal Highway Administration

and

American Association of State Highway and Transportation Officials

American Concrete Pavement Association (ACPA)

Cement Association of Canada

Chapter/State Division of ACPA

International Grooving and Grinding Association

International Society for Concrete Pavements

Missouri Department of Transportation

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National Concrete Pavement Technology Center

Portland Cement Association

Transportation Research Board

Concrete Pavements—Safer, Smoother, Longer Lasting

U.S. Department of Transportation
Federal Highway Administration

CONCRETE PAVEMENT CPTP TECHNOLOGY PROGRAM

Proceedings

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Disclaimer

The information presented at the St. Louis conference and contained in these proceedings does not represent any formal endorsement of techniques, materials, or processes by the sponsoring organizations. The information presented in these proceedings should be used judiciously by experienced concrete pavement technologists.

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Foreword

Well-designed and well-constructed concrete pavements can be expected to provide low-maintenance service life, well exceeding the as-designed service life. The majority of pavements in the U.S. Interstate and primary systems were designed on the basis of a 20- to 25-year initial service life, and many miles of these pavements are in service after more than 30 to 35 years. However, concrete pavements do deteriorate with time and traffic loadings and because of concrete material failures. But, sound corrective measures performed in a timely manner can greatly extend the service life of existing concrete pavements. These corrective measures include preservation treatments, repair/restoration activities, and rehabilitation. The goal of the corrective measures is to extend the useful life of concrete pavements (structural capacity and functional characteristics) with the least life cycle costs. Timely preservation activities can delay the need for repairs, and timely repairs can delay the need for rehabilitation. Delays in timely preservation, repair, and rehabilitation (PRR) or improper PRR activities can lead to pavements that are in such poor condition that the only option remaining is reconstruction, which is more costly.

Over the last two decades, there has been much progress in developing effective PRR techniques. However, many gaps remain, and many practices are not implemented consistently from one region to another. An important technical limitation is associated with our ability to rationally determine what treatments need to be performed at what stage in the pavement's life and what are the consequences of delaying needed treatments. In today's environment, where the highway agency budgets cannot fully meet the needs for managing pavement assets yet there is no lessening in traffic growth and public expectations, it is important that the limited funds available to maintain our highway systems are expended in an optimal manner.

This 2 1/2-day National Conference on Preservation, Repair, and Rehabilitation of Concrete Pavements was organized as a part of technology transfer activities conducted under the U.S. Concrete Pavement Technology Program, which operates within the Federal Highway Administration. The conference objective was to provide a national forum to address the technology needs related to the PRR of concrete pavements.

The editor would like to thank the authors for supporting the objective of this conference by developing comprehensive papers related to the conference themes. The papers included in the proceedings were peer-reviewed for technical content, and the editor would also like to thank the conference steering committee members and the many reviewers who participated in the paper review process.

Editor:

Shiraz Tayabji, Ph.D., P.E.
Chair, Conference Steering Committee; stayabi@aol.com
Senior Consultant, Fugro Consultants, Inc.

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International Grooving and Grinding Association
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National Center for Concrete Pavement Technology

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The Conference Steering Committee consisted of the following:

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Contact for the Conference and Proceedings

Shiraz Tayabji, Fugro Consultants, Inc., 410-997-9020, stayabji@aol.com