Mechanistic-empirical Pavement Design Guide
AASHTO Guide for Design of Pavement Structures
Policy on Design Standards--interstate System
Proposed AASHTO Guide for Design of Pavement Structures
Pavement Design and Materials
AASHTO Interim Guide for Design of Pavement Structures
Pavement Analysis and Design
Simplified Guide for the Design of Concrete Pavements
AASHTO Guide for Design of Pavement Structures, 1993
Calibrating the Mechanistic-empirical Pavement Design Guide for Kansas
AASHTO Guide for Design of Pavement Structures
Pavement Analysis and Design
Simplified Guide for the Design of Concrete Pavements
AASHTO Guide for Design of Pavement Structures, 1993
Calibrating the Mechanistic-empirical Pavement Design Guide for Kansas
Guide for the Planning, Design, and Operation of Pedestrian Facilities
Guide for the Local Calibration of the Mechanistic-empirical Pavement Design Guide
Guide for Pavement Friction
A Guide for Achieving Flexibility in Highway Design
AASHTO Guide for Design of Pavement Structures
1986 AASHTO Interim Guide for Design of Pavement Structures
AASHTO Guide for Design of Pavement Structures
Supplement to the AASHTO Guide for Design of Pavement Structures, Part II
Evaluation of Procedure to Estimate Subgrade Resilient Modulus for Use in Pavement Structural Design
Supplement to the AASHTO Guide for Design of Pavement Structures
Pavement Management Guide
Use of the 1993 AASHTO Guide, MEPDG and Historical Performance to Update the WSDOT Pavement Design Catalog
Aashto Interim Guide for Design of Pavement Structures
Highway Subdrainage Design
Concrete Pavement Design Guidance Notes
Adapting the AASHTO Pavement Design Guide to New York State Conditions
Development of Flexible Pavement Design Parameters for Use with the 1993 AASHTO Pavement Design Guidelines
Roadside Design Guide
Guide to the Design of Concrete Overlays Using Existing Methodologies

This design pamphlet details suggested procedures to determine the design resilient modulus of different pavement materials in support of the 1993 American Association of State Highway and Transportation Officials (AASHTO) Guide for the Design of Pavement Structures. These suggested procedures do consider the seasonal variation of resilient moduli to estimate structural layer coefficients for flexible pavement design.

This design pamphlet details suggested procedures to determine the design resilient modulus of subgrade soils in support of the 1993 American Association of State Highway and Transportation Officials (AASHTO) Guide for the Design of Pavement Structures. The design pamphlet includes recommendations for the subsurface characterization and exploration of subsurface soils, laboratory test procedures, and determination of design resilient modulus using relative damage coefficients based on serviceability criteria and the damage coefficients to minimize permanent deformations in the subgrade.

The Kansas Department of Transportation (DOT) uses the 1993 DARWin version of the 1986 AASHTO Guide to design rigid and flexible pavements. One of the inputs needed for the
flexible pavement design procedure is the modulus of the subgrade soils, which has an effect on the total pavement thickness. Different procedures can be used to estimate the effective roadbed resilient modulus for flexible pavement design and effective modulus of subgrade reaction for rigid pavement design. As part of the study entitled Determination of the Appropriate Use of Pavement Surface History in the KDOT Life-Cycle Cost Analysis Process, an evaluation of the procedure that Kansas DOT uses to estimate the effective subgrade resilient modulus was completed. This report provides the results of that evaluation.

"The anticipated primary audience for this guide is pavement management staff in the state departments of transportation. It is anticipated that most of the users of this guide will view it as a resource to address particular issues or concerns that arise as agencies face the challenges associated with managing pavements effectively. The guide's organization by pavement management components and functions should help support this use. However, the guide may also be used to assist those seeking general knowledge of pavement management concepts. Since pavement management is not a subject normally included in a civil engineering college curriculum, it is hoped that the structure of the guide will support this use as well. Pavement management is used to assess and justify funding needs for pavement preservation and rehabilitation, and to help set attainable pavement-related performance goals. These successes illustrate that when reliable technical information is presented effectively, it can go a long way towards overcoming the institutional issues that threaten the use of innovative and cost-effective strategies." -- publisher's description

This comprehensive design guide summarizes current developments in the design of concrete pavements. Following an overview of the theory involved, the authors detail optimum design techniques and best practice, with a focus on highway and infrastructure projects. Worked examples and calculations are provided to describe standard design methods, illustrated with numerous case studies. The author provides guidance on how to use each method on particular projects, with reference to UK, European and US standards and codes of practice. Concrete Pavement Design Guidance Notes is an essential handbook for civil engineers, consultants and contractors involved in the design and construction of concrete pavements, and will also be of interest to students of pavement design.

The Kansas Department of Transportation (KDOT) is moving toward the implementation of the new American Association of State Highway and Transportation Officials (AASHTO) Mechanistic-Empirical Pavement Design Guide (MEPDG) for pavement design. The MEPDG provides a rational pavement design framework based on mechanistic-empirical principles to characterize the effects of climate, traffic, and material properties on the pavement performance, as compared with the 1993 AASHTO Guide for Design of Pavement Structures. Before moving to the MEPDG, the nationally calibrated MEPDG distress prediction models need to be further validated and calibrated to the local condition. The objective of this research was to improve the accuracy of the MEPDG to predict the pavement performance in Kansas. This objective was achieved by evaluating the MEPDG-predicted performance of Kansas projects, as compared with the pavement performance data from the pavement management system (PMS), and calibrating the MEPDG models based on the pavement performance data. In this study, 28 flexible pavement projects and 32 rigid pavement projects with different material properties, traffic volumes, and climate conditions were strategically selected throughout Kansas. The AASHTO ME Design software (Version 1.3) was used in this study. The comparisons between the MEPDG-predicted pavement performance using the nationally calibrated models and the measured pavement performance indicated the need for the calibration of the MEPDG models to the Kansas conditions. For new flexible pavements, the MEPDG using the nationally calibrated models overestimated the rutting due to the overprediction of the deformation of the subgrade layer. Biases also existed between the predicted top-down cracking, thermal cracking, and International Roughness Index (IRI) and the measured data. The relationship between the measured and the predicted IRIs was more obvious than that for the cracking. Using the coefficients determined through local calibration in this study, the biases and the standard errors were minimized for all the
models based on the statistical analysis. For new rigid pavements, very low mean joint faulting was measured in actual projects as compared with the default threshold of the MEPDG. The type of base course had a minor effect on the pavement performance. The traditional splitting data method was adopted in the process of local calibration. After the local calibration, the biases between the predicted pavement performance (mean joint faulting and IRI) and the measured pavement performance were minimized, and the standard errors were reduced.

Consolidation of significant information presented in the AASHTO guide that pertains to the design of new concrete pavements.

A comprehensive, state-of-the-art guide to pavement design and materials With innovations ranging from the advent of SuperpaveTM, the data generated by the Long Term Pavement Performance (LTPP) project, to the recent release of the Mechanistic-Empirical pavement design guide developed under NCHRP Study 1-37A, the field of pavement engineering is experiencing significant development. Pavement Design and Materials is a practical reference for both students and practicing engineers that explores all the aspects of pavement engineering, including materials, analysis, design, evaluation, and economic analysis. Historically, numerous techniques have been applied by a multitude of jurisdictions dealing with roadway pavements. This book focuses on the best-established, currently applicable techniques available. Pavement Design and Materials offers complete coverage of: The characterization of traffic input The characterization of pavement bases/subgrades and aggregates Asphalt binder and asphalt concrete characterization Portland cement and concrete characterization Analysis of flexible and rigid pavements Pavement evaluation Environmental effects on pavements The design of flexible and rigid pavements Pavement rehabilitation Economic analysis of alternative pavement designs The coverage is accompanied by suggestions for software for implementing various analytical techniques described in these chapters. These tools are easily accessible through the book’s companion Web site, which is constantly updated to ensure that the reader finds the most up-to-date software available.

This report describes the preparation of a revised pavement thickness design catalog for the Washington State Department of Transportation (WSDOT) using the 1993 American Association of State Highway and Transportation Officials (AASHTO) Guide, the Mechanistic-Empirical Pavement Design Guide (MEPDG), and WSDOT historical pavement performance data.

This report contains guidelines and recommendations for managing and designing for friction on highway pavements. The contents of this report will be of interest to highway materials, construction, pavement management, safety, design, and research engineers, as well as others concerned with the friction and related surface characteristics of highway pavements.

This up-to-date book covers both theoretical and practical aspects of pavement analysis and
design. It includes some of the latest developments in the field, and some very useful computer software—developed by the author—with detailed instructions. Specific chapter topics include stresses and strains in flexible pavements, stresses and deflections in rigid pavements, traffic loading and volume, material characterization, drainage design, pavement performance, reliability, flexible pavement design, rigid pavement design, design of overlays, theory of viscoelasticity, theory of elastic layer systems, Superpave, pavement management systems, and an introduction to the 2002 Pavement Design Guide. For practicing engineers in the design of pavements and raft foundations.

This Supplement includes alternative design procedures that can be used in place of or in conjunction with the American Association of State Highway and Transportation Officials (AASHTO) "Guide for the Design of Pavement Structures", Part II, Section 3.2, Rigid Pavement Design, and Section 3.3, Rigid Pavement Joint Design. The Supplement contains the recommendations from National Cooperative Highway Research Program (NCHRP) Project 1-30, modified based on the results of the verification study conducted using the Long Term Pavement Performance (LTPP) database.

The Guide to the Design of Concrete Overlays using existing methodologies is a product of the National Concrete Pavement Technology Center at Iowa State University's Institute for Transportation. The guide provides decision makers and practitioners with straightforward, simple guidance for the design of concrete overlays using existing methodologies. The guide focuses on four commonly used methods: The method described in the 1993 American Association of State Highway and Transportation Officials (AASHTO) Guide for Design of Pavement Structures, 4th edition; The method described in the AASHTO Mechanistic-Empirical Pavement Design Guide, Interim Edition: a Manual of Practice; The American Concrete Pavement Association (ACPA) modified method for bonded concrete overlays of asphalt pavements; The Colorado Department of Transportation method for bonded concrete overlays of asphalt pavements. The guide discusses specific design assumptions, deficiencies, and strengths inherent in each method, as well as step-by-step design examples for typical pavement sections. This guide is intended to be used in conjunction with the corresponding design procedures’ documentation/references, such as the 1993 AASHTO Guide for Design of Pavement Structures and/or computer software for the AASHTO Mechanistic-Empirical Pavement Design Guide and ACPA methods.

This guide provides guidance to calibrate the Mechanistic-Empirical Pavement Design Guide (MEPDG) software to local conditions, policies, and materials. It provides the highway community with a state-of-the-practice tool for the design of new and rehabilitated pavement structures, based on mechanistic-empirical (M-E) principles. The design procedure calculates pavement responses (stresses, strains, and deflections) and uses those responses to compute incremental damage over time. The procedure empirically relates the cumulative damage to observed pavement distresses.

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