

PAVEMENT DESIGN MEMORANDUM 17-01

TO: Dallas Hammit, Deputy Director for Transportation/State Engineer
Steven Boschen, Assistant Director, Infrastructure Delivery and Operations
Brent Cain, Assistant Director, TSMO
Robert J. Samour, Senior Deputy State Engineer, Major Projects
Todd Emery, Deputy State Engineer, Project Delivery
Barry Crockett, Deputy State Engineer, Contracts and Clearances
Jesse Gutierrez, Deputy State Engineer, Operations
James Windsor, Deputy State Engineer, TSMO
Julie E. Kliewer, Assistant State Engineer, Construction and Materials
Lonnie Hendrix, Assistant State Engineer, TSMO Systems Management
Annette Riley, Senior Division Administrator, Project Management Group
Maysa Hanna, Assistant State Engineer, Traffic Engineering Group
David Eberhart, Assistant State Engineer, Bridge Group
Michael DenBleyker, Manager, Engineering Consultants Section

CC: Federal Highway Administration

FROM: Reed Henry, Deputy State Roadway Engineer



DATE: September 29, 2017

Revised ADOT Pavement Design Manual

Purpose

To issue a revised ADOT Pavement Design Manual. The manual can be found on our web site at, <https://www.azdot.gov/business/engineering-and-construction/roadway-engineering/pavement-design>

Background

The purpose of this manual revision is to present guidance on how ADOT currently uses the 1993 *AASHTO Guide for the Design of Pavement Structures* to design new pavements, and the *Structural Overlay Design for Arizona* (SODA) to design asphalt overlays. Significant changes since the last manual update include: modifying the method of calculating the design R-value for highly variable subgrade soils, revising the combined standard error (S_o) for rigid pavements, updating the format and presentation of the Materials Design Package, updating the SODA equation to reflect roughness measurements based on International Roughness Index (IRI) rather than Mays Meter values, and a new procedure for calculating design equivalent single axle loads (ESAL's).

It should be noted that the structure and format of ADOT's pavement design guidance has changed since it was last revised in 1992. Previously, guidance for pavement design activities was included in the

Materials Preliminary Engineering and Design Manual. However, reorganizational changes have resulted in a decision to issue this guidance as a stand-alone document under the title of *ADOT Pavement Design Manual.*

Process

Pavement design for all ADOT roadways should be performed in accordance with the guidance provided in the ADOT Pavement Design Manual, dated September 29, 2017.