

Implementation of 2002 Design Procedures

One State's Perspective

Getting To Know Arizona

- Elevation 100 ft to 13,000 ft
- Rainfall 2-3 inches to 30 inches
- Traffic Loading 2-3 Million ESALS
- 96% of the Network is Asphalt Concrete
- Two Ski Areas
- Data Rich in LTPP Sites (111 SPS Site)

Design Team Recommended Implementation

- Develop Plan and Form Committee
- Training
- Obtain Needed Equipment
- Establish Design Input Procedures, Defaults, & Database
- State Calibration
- State Validation

Plan and Committee

- Five Year Research Effort
- 14 Individual Projects
- \$1.5 Million Effort
- Began in 1999

Training

- NHI Course—Introduction to Mechanistic-Empirical Pavement Design
- 2002 Guide Training Course

Obtain the Necessary Equipment

- Pooled Approach
- Two Complete Laboratories

Design Team Recommended Implementation

- Plan and Committee
- Training
- Obtained Needed Equipment
- Establish Design Input Procedures, Defaults, & Database
- State Calibration
- State Validation

Begin With the End in Mind

- Development of Performance Related Specifications for Asphalt Concrete

Design Team Recommended Implementation

- Plan and Committee
- Training
- Obtain Needed Equipment
- Establish Design Input Procedures, Defaults, & Database
- Calibration Issue
- State Validation

Establish Design Input Procedures, Defaults & Databases

- AC Binder Characterization
- AC Mixture Stiffness Characterization Database
- AC Mixture Permanent Deformation Characterization Database
- AC Fracture Characterization Database
- Unbound Materials Characterization
- Unbound Materials Permanent Deformation Database
- Development of Traffic Spectra Files

Design Team Recommended Implementation

- Plan and Committee
- Training
- Establish Design Input Procedures, Defaults, & Database
- **State Calibration**
- **State Validation**

Calibration & Validation

- Pavement Prediction Using 2002 Guide
- Calibration of AASHTO Pavement Design and Analysis Procedures to Arizona Conditions

Development of Performance Related Specifications

- Develop and Implement into
Construction Practice

Arizona Approach

- Asphalt Concrete
 - 12 Mixes Being Evaluated
 - 9 Binders Being Evaluated
- Unbound Materials
 - 4 Subgrade Materials
 - 4 Base Types
- Validation Projects
 - 20 to 30 Projects