
Standard Practice for Balanced Design of Asphalt Mixtures

AASHTO Designation: PP 105-24¹

Technically Revised: 2024

**Technical Subcommittee: 2d, Proportioning
of Asphalt–Aggregate Mixtures**



**American Association of State Highway and Transportation Officials
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1. SCOPE

- 1.1. This standard practice serves as a framework for balanced design of asphalt mixtures that governs the development of an asphalt mixture job mix formula based on mixture volumetric properties, mechanical test results, or both.
- 1.2. This standard practice may also be used to provide a preliminary selection of mix parameters as a starting point for performance prediction analyses.
- 1.3. *This standard practice may involve hazardous materials, operations, and equipment. This standard practice does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. REFERENCED STANDARDS

- 2.1. *AASHTO Standards:*
- M 323, Superpave Volumetric Mix Design
 - MP 46, Balanced Mix Design
 - R 35, Superpave Volumetric Design for Asphalt Mixtures
- 2.2. *Other Document:*
- FHWA. LTPP Seasonal Asphalt Concrete Pavement Temperature Models, LTPPBind Online. Available from https://infopave.fhwa.dot.gov/Page/Index/LTPP_BIND

3. TERMINOLOGY

- 3.1. *Definitions:*
- 3.1.1. *air voids (V_a)*—Total volume of the small pockets of air between the coated aggregate particles throughout a compacted paving mixture, expressed as a percent of the bulk volume of the compacted paving mixture.
- 3.1.2. *balanced mix design (BMD)*—Asphalt mix design framework using mechanical tests correlated to field performance on appropriately conditioned specimens that addresses multiple modes of asphalt layer distress taking into consideration mixture aging, traffic, climate, and location within the pavement structure (see Note 1).
- Note 1**—Term defined by the FHWA Expert Task Group on Mixtures and Construction in 2015 with modifications suggested by TRB AKM10 in 2022.