



A Vision for Net Zero Carbon Emissions
for the Asphalt Pavement Industry

Balanced Mix Design: State of Implementation

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Balanced Mix Design Definition

- *“Asphalt mix design using performance tests on appropriately conditioned specimens that address multiple modes of distress taking into consideration mix aging, traffic, climate and location within the pavement structure.”*
- Use the right mix for the job!



BMD Approaches

A. Volumetric Design with Performance Verification

- Volumetric mix design + performance testing at OBC

B. Volumetric Design with Performance Optimization

- Volumetric mix design + performance testing to adjust OBC

C. Performance-Modified Volumetric Design

- Performance testing to optimize mix components and proportions + volumetric verification

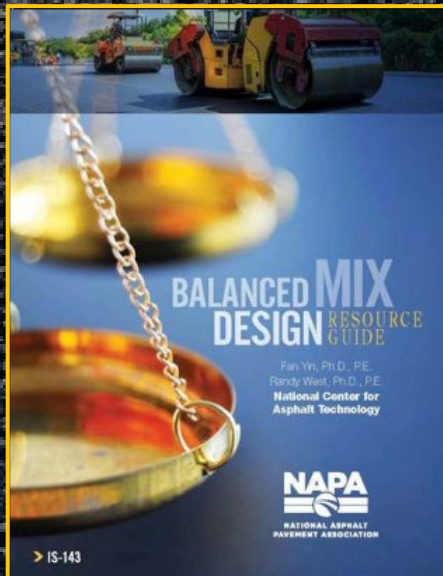
D. Performance Design

- Performance testing to optimize mix components and proportions

BMD Approaches

Approach A → B → C → D

- Degree of strictness on meeting volumetric criteria ↓
- Potential for innovation in meeting performance criteria ↑



A screenshot of the NAPA website's 'RESOURCES' page. The navigation bar at the top includes 'ABOUT NAPA', 'EXPERTISE', 'PROGRAMS', 'MEMBERSHIP', and 'NEWS & RESOURCES'. The main heading is 'RESOURCES'. Below it, the section is titled 'NAPA Resources' and contains a paragraph: 'Whether you need a tool to complete a pavement design for a design-build project or just need to know when you should have your rollers ready to compact a freshly laid asphalt mat, NAPA has partnered with technology experts to develop tools that can help with critical tasks.' A highlighted box contains the text 'BALANCED MIX DESIGN' and a link 'Balanced Mix Design Resource Guide'.



- [NCAT Report 20-02: PERFORMANCE TESTING FOR QUALITY CONTROL AND ACCEPTANCE OF BALANCED MIX DESIGN - Page 1](#) 83%

The implementation of Balanced Mix Design (BMD) is in various stages across different states in the U.S. BMD is a methodology for designing asphalt mixtures based on performance rather than just adhering to specified combined aggregate gradation and volumetric requirements.

Here's a brief overview of the state of BMD implementation in some states:

1. **Louisiana Department of Transportation and Development:** They utilize a BMD approach that incorporates the use of volumetric mix design process

New chat

Ask any asphalt pavement question.

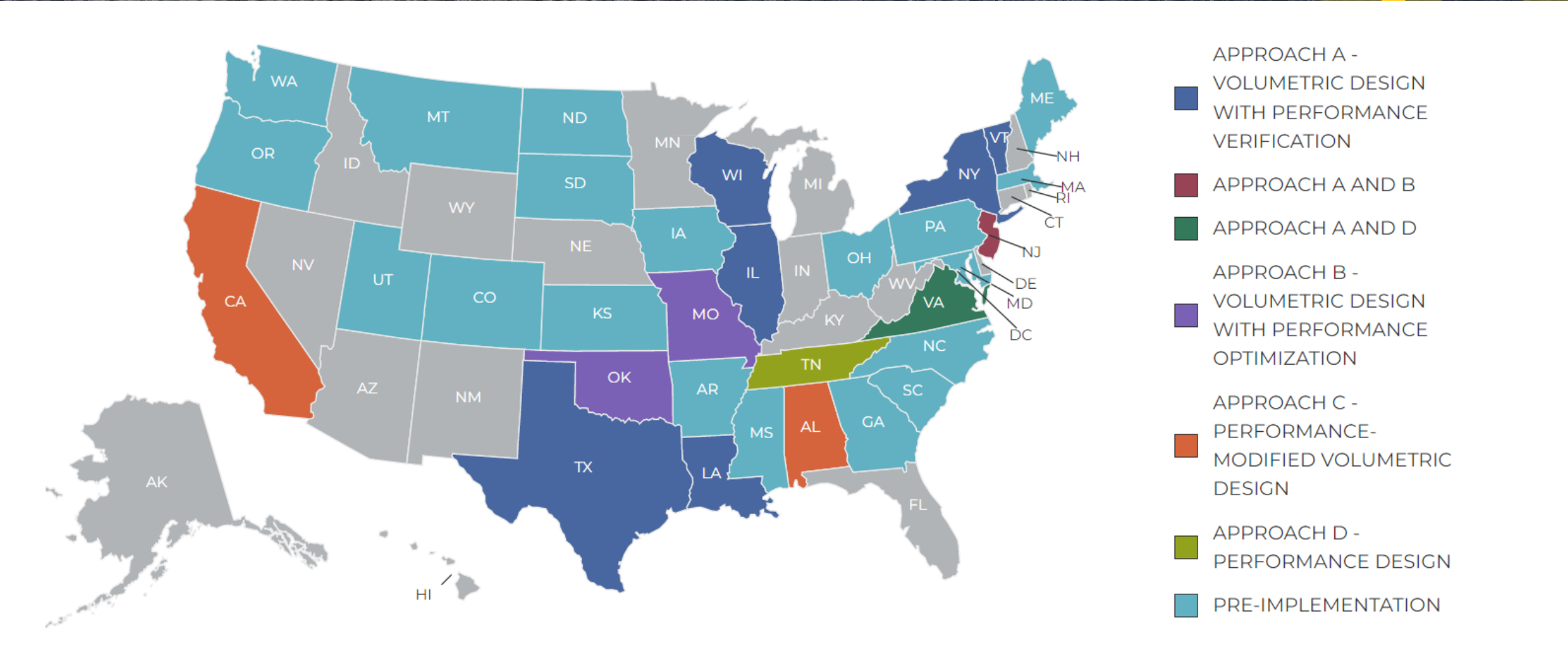


Hey NAPA!

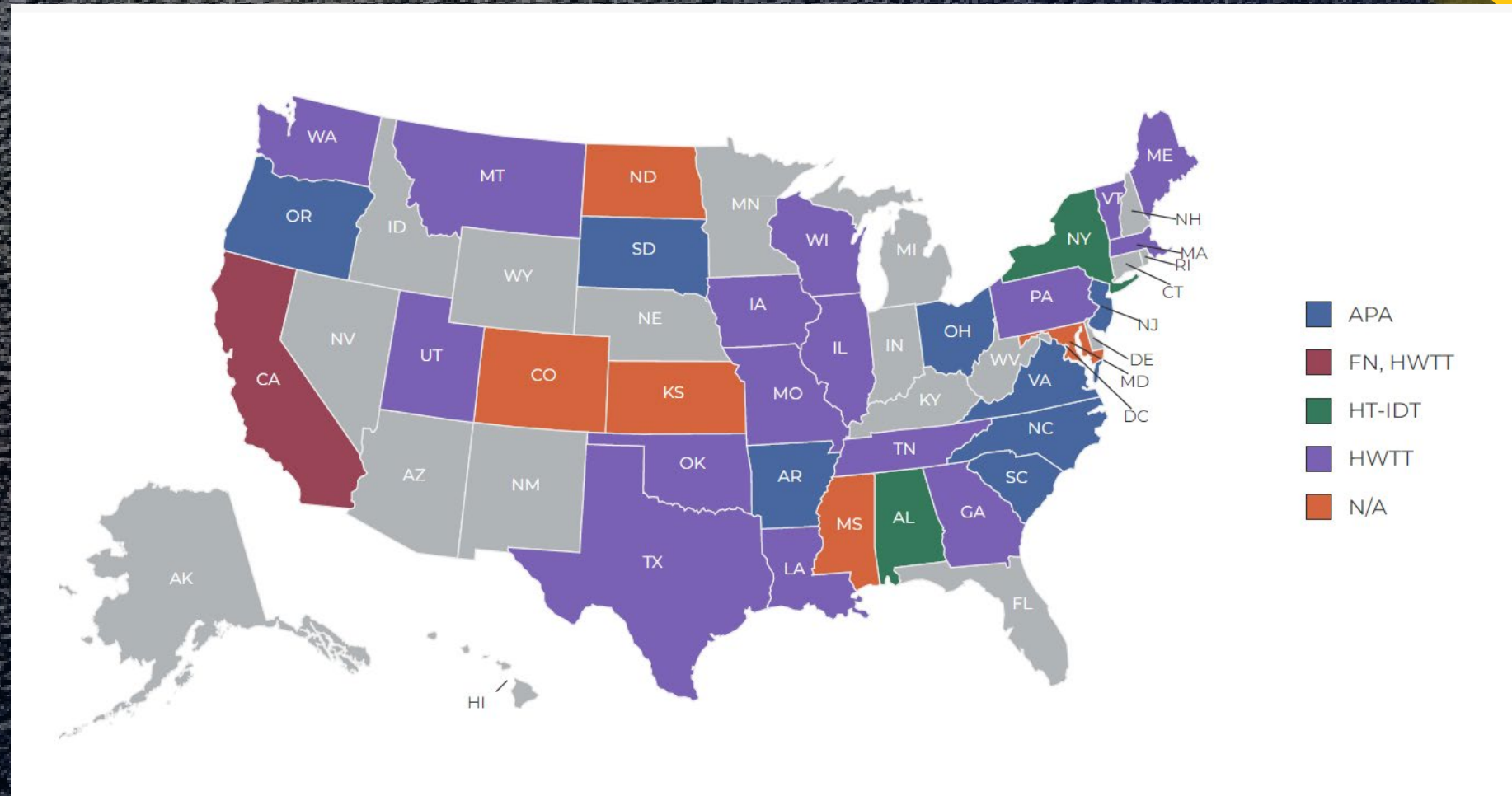
What is the current stats of BMD Implementation in the US?



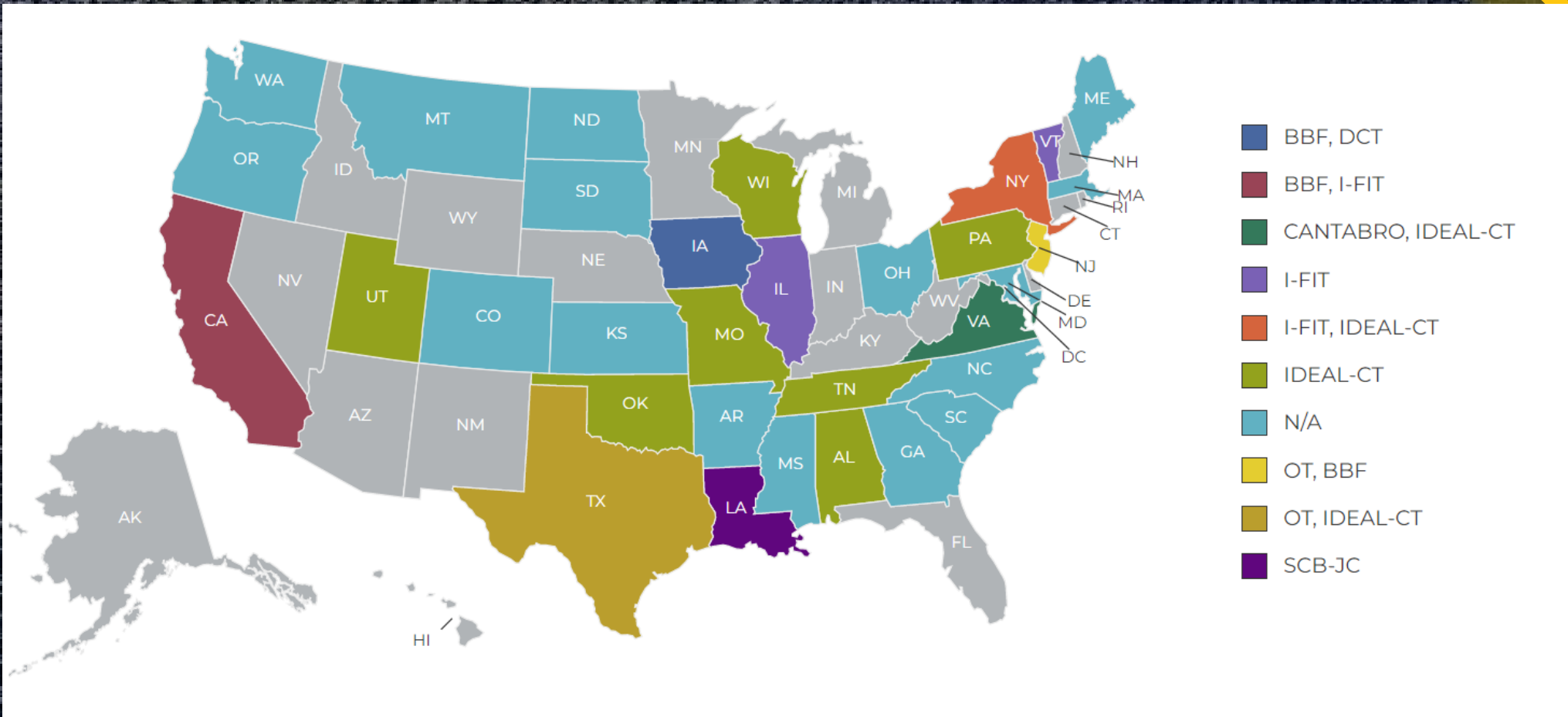
BMD Approaches



Rutting Tests



Cracking Tests



What's it going to take to...



<https://www.asphaltpavement.org/expertise/engineering/resources/bmd-resource-guide>