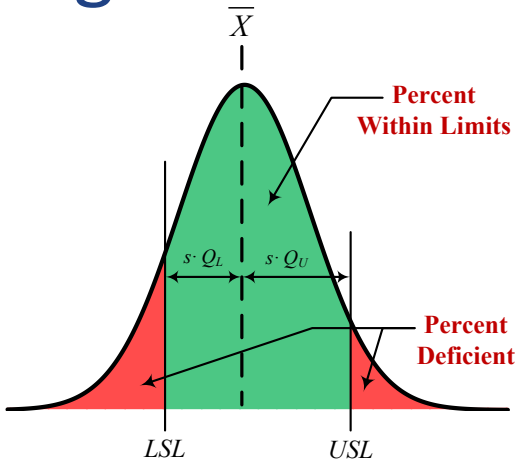
Florida Department of
TRANSPORTATION

Research Update
Flexible Pavement Committee Meeting
February 16, 2022

Greg Sholar

Contracted Research

- Impact of Incentive/Disincentive Specifications on Long-Term Asphalt Pavement Performance.
  - FDOT Project Manager: Howie Moseley
  - Organization: Applied Research Associates
  - Anticipated completion date: Spring 2023



- The objective of this research is to evaluate the effectiveness of our current specification requirements used for asphalt mixture acceptance.

Contracted Research

- Investigation of the Impact of Milling and Construction on the Bond Strength of Remaining Thin Layers (referred to as scabbed layers).
  - FDOT Project Manager: Wayne Rilko
  - Organization: University of Florida
  - Anticipated completion date: June 2022
- The objectives of this research are:
  - To determine the effect of scabbing on overlay performance.
  - Evaluate the potential effects of size, thickness, and degree of bonding of the scab on pavement distress.
  - Investigate whether compaction of the overlay may weaken the bond below the scabbed area.

Contracted Research

- Performance Evaluation of SP-9.5 and SP-12.5 Superpave Mixtures
  - FDOT Project Manager: Wayne Rilko
  - Organization: TTI
  - Anticipated completion date: June 2022

- The objectives of this research are:
  - Compare the performance (cracking, rutting, and durability) between SP-9.5 and SP-12.5 mixtures.
  - Determine if SP-9.5 mixtures are at least equivalent to SP-12.5 mixtures.

Contracted Research

- Practical Mix Design Guidelines for Reflective Cracking Resistant Mixtures
  - FDOT Project Manager: Howie Moseley
  - Organization: University of Florida
  - Anticipated completion date: December 2022
- The objective of this research is to develop an effective replacement of the ARMI with a crack resistant asphalt mixture.

Contracted Research

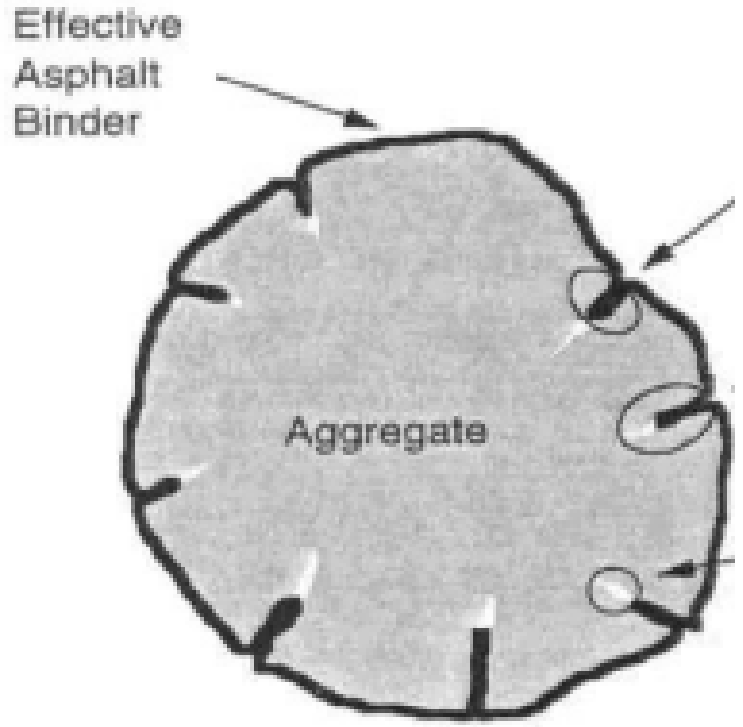
- Improved Resilience of Asphalt Pavements Due to Flooding
  - FDOT Project Manager: Greg Sholar
  - Organization: University of Florida
  - Anticipated completion date: December 2022
- The objective of this research is to improve the performance of the asphalt mix for roads that flood regularly and are subject to traffic.

Contracted Research

- Open-Graded Friction Courses Suitable for Suburban Environments
  - FDOT Project Manager: Wayne Rilko
  - Organization: NCAT
  - Anticipated completion date: April 2023
- The objective of this research is to develop a more durable friction course that minimizes the potential for hydroplaning and is suitable for regular stopping and turning movements.

Contracted Research

- Determining the Effect on Asphalt Mixture Performance by Increasing New Asphalt Binder Content Due to Inactive RAP Binder in the Mixture
  - FDOT Project Manager: Greg Sholar
  - Organization: NCAT
  - Anticipated completion date: November 2023
- The objectives of this research are:
  - Determine if reducing the RAP binder contribution and replacing it with new asphalt binder will affect mixture performance (rutting, cracking, and durability)
  - Determine the best ways to implement the changes in mix design and production.



Contracted Research

- A Review of Protocols Used for Evaluating Defective Asphalt Materials and Pavements
  - FDOT Project Manager: Howie Moseley
  - Organization: NCAT
  - Anticipated completion date: July 2024
- The objective of this research is to determine effective evaluation techniques for in-place material that did not meet specification requirements.

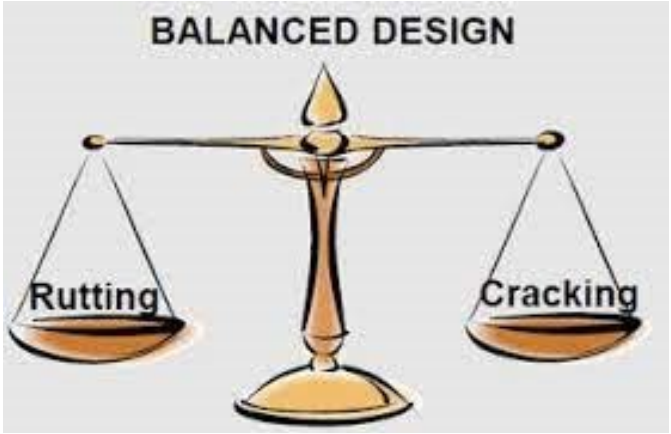
Failing the MPR

Contracted Research

- Evaluation of Enhanced-Friction Asphalt Overlays and Surface Treatments
  - FDOT Project Manager: Ahmad Chami
  - Organization: TBD
  - This project should advertise soon.
- The objective of this research is to determine asphalt mixture alternatives to high friction surface treatments.

Proposed Contracted Research

- Benching marking Florida asphalt mixtures with balanced mix design tests.



- Evaluation of Superpave 5 and SMA mixture design protocols compared to regular Superpave.

In-house Research

- Demonstration Project for Asphalt Performance Engineered Mixture Design Testing (a.k.a. Balanced Mix Design)
  - FDOT Project Manager: Howie Moseley
  - Organization: Working with the FHWA, UF, and NCSU
  - December 2022.
- The objective of this research is to evaluate and develop proficiency with the FHWA and NCSU performance engineered mixture design protocol using dynamic modulus, cyclic fatigue and stress sweep rut testing in the AMPT.

In-House Research

- Aramid fibers (two suppliers: ACE and Forta)
  - Being studied at the State Materials Office Test Track, a field test section (SR-200 in Dist. 2), and in SMO lab.
  - Will it help rutting and/or cracking resistance?
  - Is it worth the cost increase?


Thank You
Questions?