Hamburg Wheel Track Testing Pilot

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PennDOT Moving to HWT Testing

Target - Balanced Mix Design for PA mixes

Incremental Approach – Not all at Once

Hamburg Wheel-Tracking Device

Photos courtesy of Asphalt Institute
Balanced Asphalt Mix Design

Cracking Resistance

Min

Acceptable AC Range

Asphalt Content

Rutting Resistance

Min

www.dot.state.pa.us

Pennsylvania Department of Transportation
First Step – Rutting Test

Looking for a rutting test that is...
- Well established, proven track record
- Detects rut-prone mixes
- Bonus would be capable of testing wet or dry for moisture susceptible mixes

Choices...
- APA
- AMPT
- Hamburg
My Choice - HAMBURG
HWT Testing Advantages

• Rutting Resistance Measure
  – Very well established track record detecting rut-prone asphalt mixtures.
  – Rules of thumb
    • 12.5mm at 20,000 cycles for polymer modified mixes
    • 12.5mm at 10,000 cycles for non-polymer modified mixes

• Moisture Susceptible Aggregate Measure
  – May replace AASHTO T283 (TSR) eventually
Implementation Challenges

• Implementation will not be quick or simple.
  – Pick performance test(s)
  – Decide on test protocols.
  – Who will be doing testing and how large of an investment is the equipment?
    • Contractors / Producers
    • Special Testing Labs
  – Enough lead time between project bid and paving?
  – Trained technicians to run testing?
HWT Standard Special Provision Status

- Standard Special previously circulated through APQIC Pro-team.
- CT2 recently in circulation.
  - Comments were due Jan. 10, 2020
- Shooting for end of January for solicitation letter to Districts.
- Asking Districts to include the special provision on a minimum of 3 projects in the 2020 construction season with anticipated final inspection dates before October 31, 2021.
- Payment to be an “each” item with number of tests specified
HWT Test Requirements

- Hamburg Wheel Tacking Test. (AASHTO T 324)
  - Lab produced samples **only** for this pilot.
  - Gyratory samples % 7.0 (+/- 0.5%) air voids
  - Test run at 122°F (50°C)
  - All samples tested to 20,000 cycles or 14 mm rut depth, whichever comes first
HWT Standard Special Provision 2020

• HWT Testing results are for information only in 2020.
• HWT test results are not required until the final project inspection.
• No project construction delays because of testing availability or results in 2020.
• Payment to contractor for HWT testing in 2020.
• Incremental changes in future years.
  – Incidental to JMF, Testing requirement for JMF approval, Limits established…
If Garth doesn’t know, ask Neal Fannin