SMA in PA

Neal Fannin P.E.
Pavement Materials
CMD
History

- First SMA project placed in 1994 in PA in District 8. (Harrisburg area)
  - Did not perform well

- 1997 District 9 placed their first SMA project.

- 2001 District 9 placed 2 projects
  - 2003 – 1 project
    - 2004 – 1 project
    - 2005 – 1 project
    - 2006 – 2 projects
    - 2007 – 3 projects (6 state wide)

- SMA Specification - Effective in PA specifications
  10/1/2009.
2009 to 2016
Long Life Asphalt Projects

- 5 Projects paved in 2018
- 6 Projects to be paved 2019 thru 2022
WMA SMA in 2017


- WMA technology at hot mix temperatures.
  - Compaction aid
Current Initiatives

- SMA on Interstates.
  - Most Districts have switched to SMA wearing courses on Interstate and high value routes.

- RAP use in SMA
  - Dist. 11 initiated a research project to evaluate the inclusion of 10% RAP in SMA for roadways with lower traffic. (collectors, some arterials)
  - The ability of Districts to specify NO RAP SMA on any road will be preserved.
  - Work Plan is being revised to include a more diverse materials sample.
    - Aggregates
    - Binder
• Illinois DOT allows the use of up to 15% of FRAP in SMA mixes.

• Illinois Tollways allows up to 20% of FRAP in SMA mixes.

• Virginia DOT allows up to 20% of RAP in wearing courses.

• Maryland State Highway Administration allows up to 20% of RAP in SMA.

• Texas DOT allows up to 15% of FRAP in wearing courses.

• Alabama DOT allows up to 20% of RAP in SMA.
• **Work Plan Testing**
  – Asphalt Binder Testing
    • Base binder true grade
      – $\Delta T_c$
    • RAP binder true grade
      – $\Delta T_c$
    • Combined binder true grade
      – $\Delta T_c$
  – Completed mix testing
    • Hamburg Wheel Tracking test
      - AASHTO T 324
    • Flexibility Index Test – AASHTO TP 124
• District 11, Allegheny Co.
  – ECMS 91790 - Let 2/28/2019
  – SR 0885 (Boulevard of the Allies)
  – Mill, scratch, and overlay with 1.5” 9.5mm SMA
  – 28,000 ADT, 9% Trucks
  – Experimental section east bound lanes
  – Control section West bound lanes
• District 4, Allegheny Co.
  – ECMS 91790 - Let
    2/28/2019
  – SR 0885, Mill, scratch and overlay with 9.5mm SMA
Questions?