

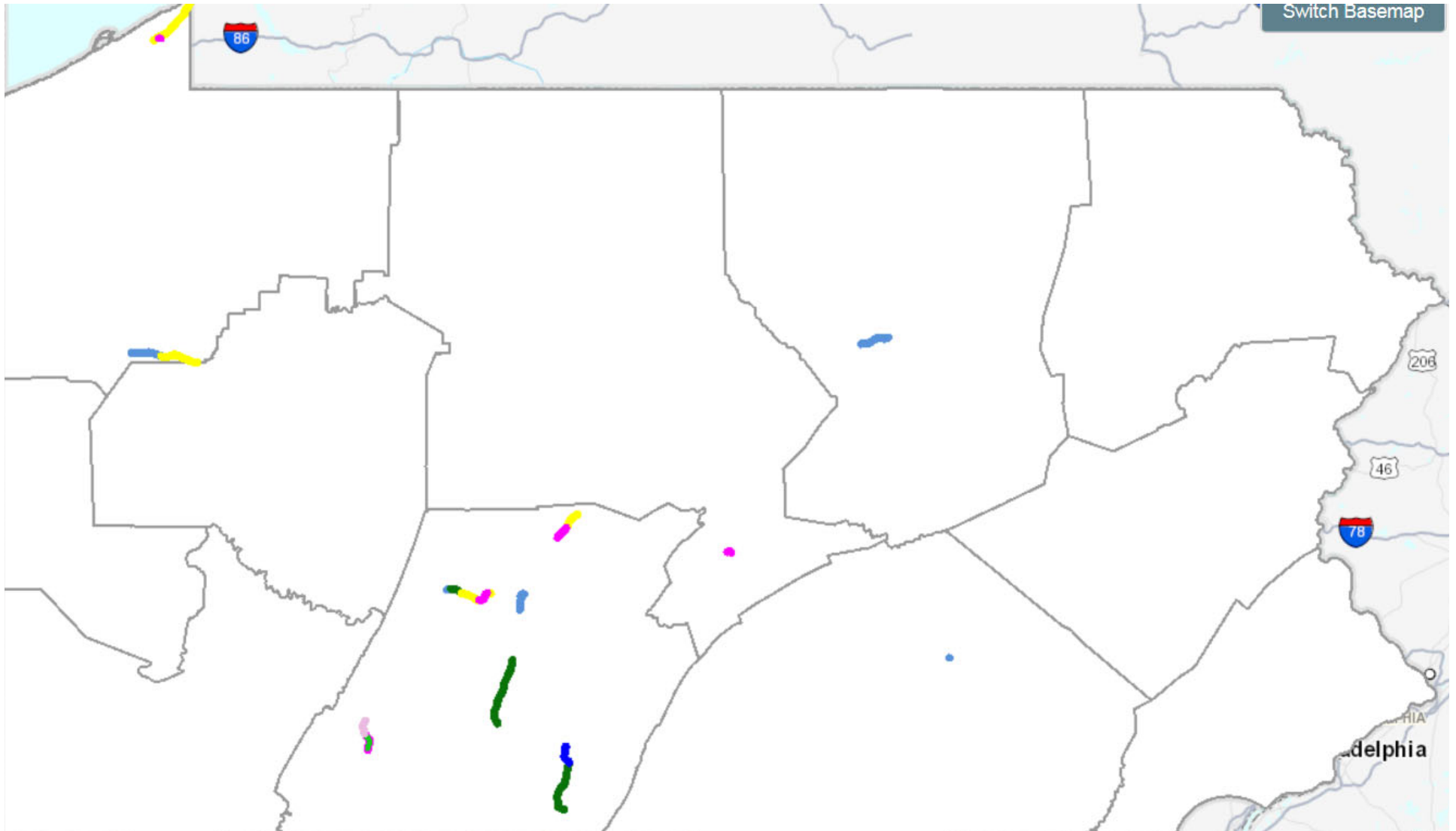
SMA in PA

Neal Fannin P.E.
Pavement Materials
CMD

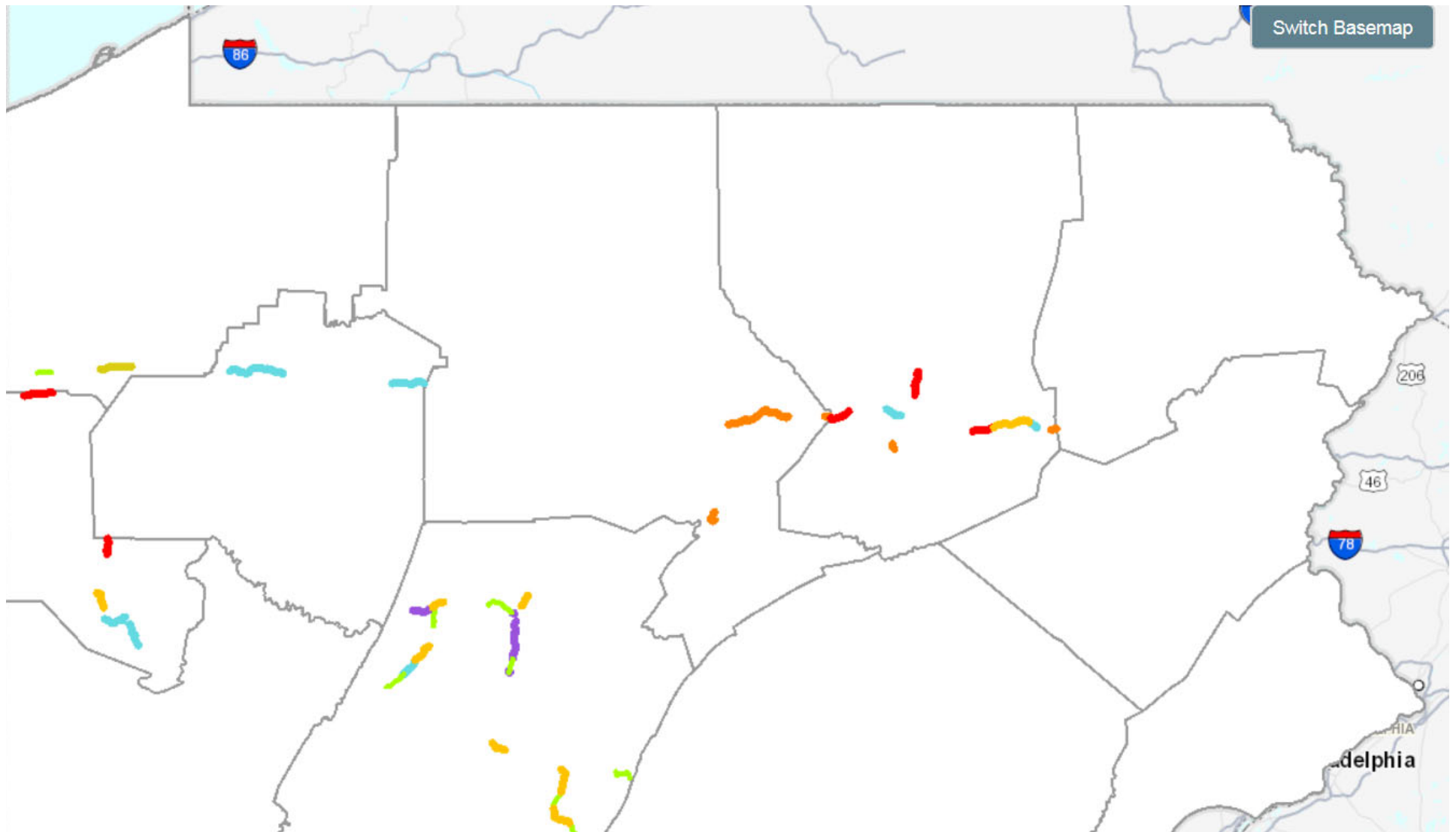
History

- 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.

2003 to 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 SMA specification change approved Feb. 24, 2017.
- WMA technology at hot mix temperatures.
 - Compaction aid

Current Initiatives

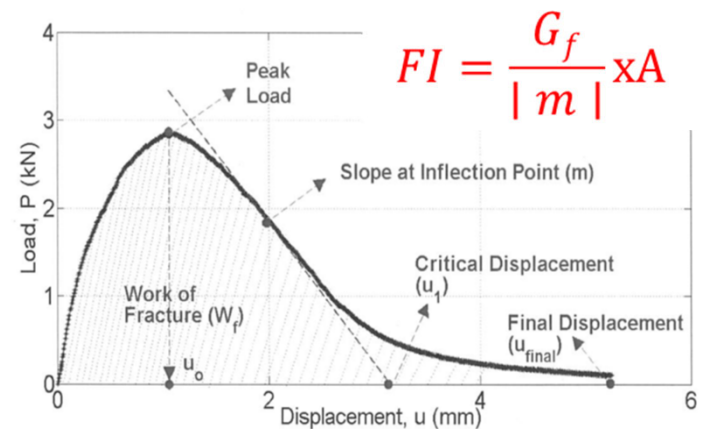
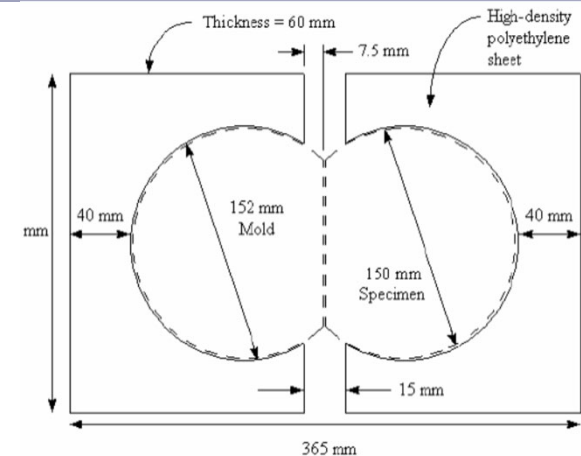
- SMA on Interstates.
 - Most Districts have switched to SMA wearing courses on Interstate and high value routes.
- RAP use in SMA
 - Dist. 11 initiated a research project to evaluate the inclusion of 10% RAP in SMA for roadways with lower traffic. (collectors, some arterials)
 - The ability of Districts 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

RAP in SMA - Other States

- **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.
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- **Alabama DOT** allows up to **20% of RAP** in SMA.

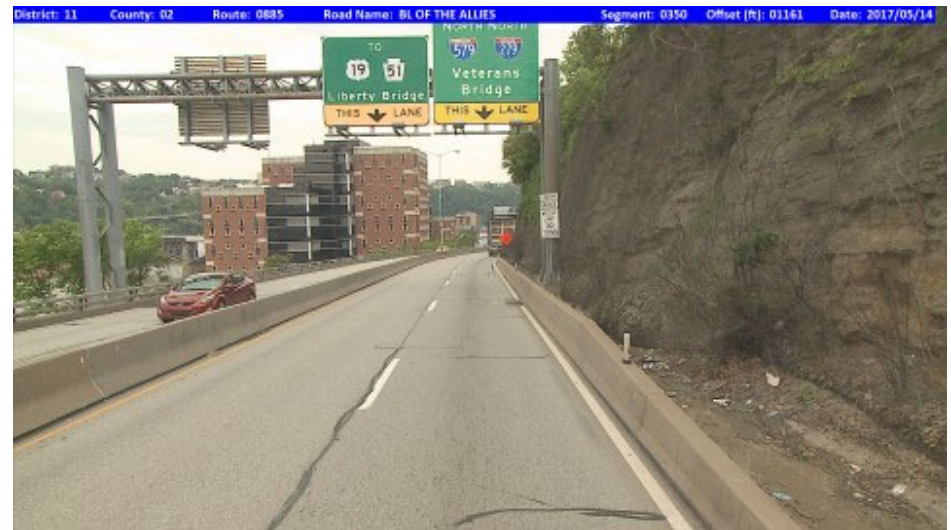
RAP in SMA research projects

- Work Plan Testing
 - Asphalt Binder Testing
 - Base binder true grade
 - ΔT_c
 - RAP binder true grade
 - ΔT_c
 - Combined binder true grade
 - ΔT_c
 - Completed mix testing
 - Hamburg Wheel Tracking test
 - AASHTO T 324
 - Flexibility Index Test –
 - AASHTO TP 124



RAP in SMA research projects

- 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



RAP in SMA research projects

- District 4, Allegheny Co.
 - ECMS 91790 - Let
2/28/2019
 - SR 0885, Mill, scratch and
overlay with 9.5mm SMA

Questions?

