



Florida Department of  
**TRANSPORTATION**

# Pavement Research Update

ACAF Conference  
September 15, 2015

# APT Research: 2015 to 2016

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- Asphalt segregation
- High polymer binder
- Asphalt density
- Tack coat rate
- FC-5 thickness

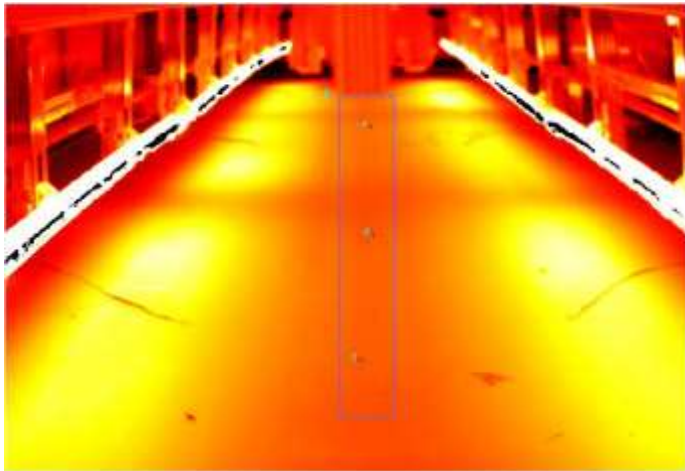
# Asphalt Segregation

- Objective: Determine the impact of segregation on asphalt performance (rutting, cracking, raveling)
- One 450 ft. lane with up to six segregated areas will be paved



# Asphalt Segregation

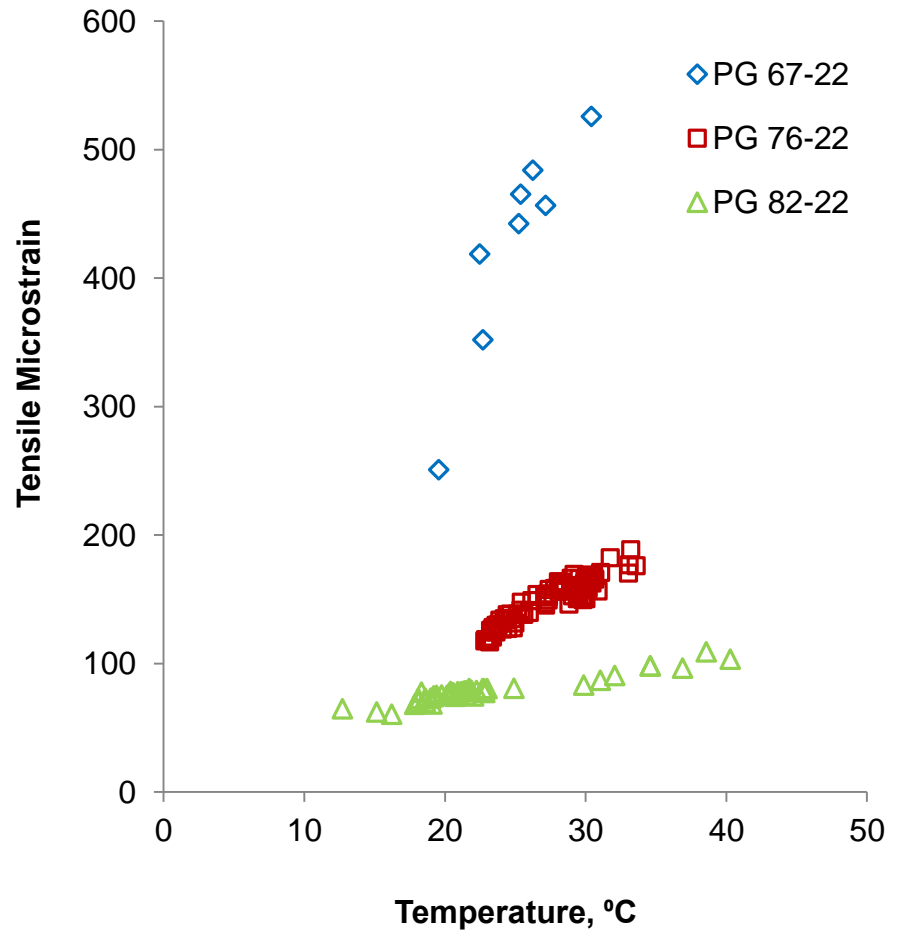
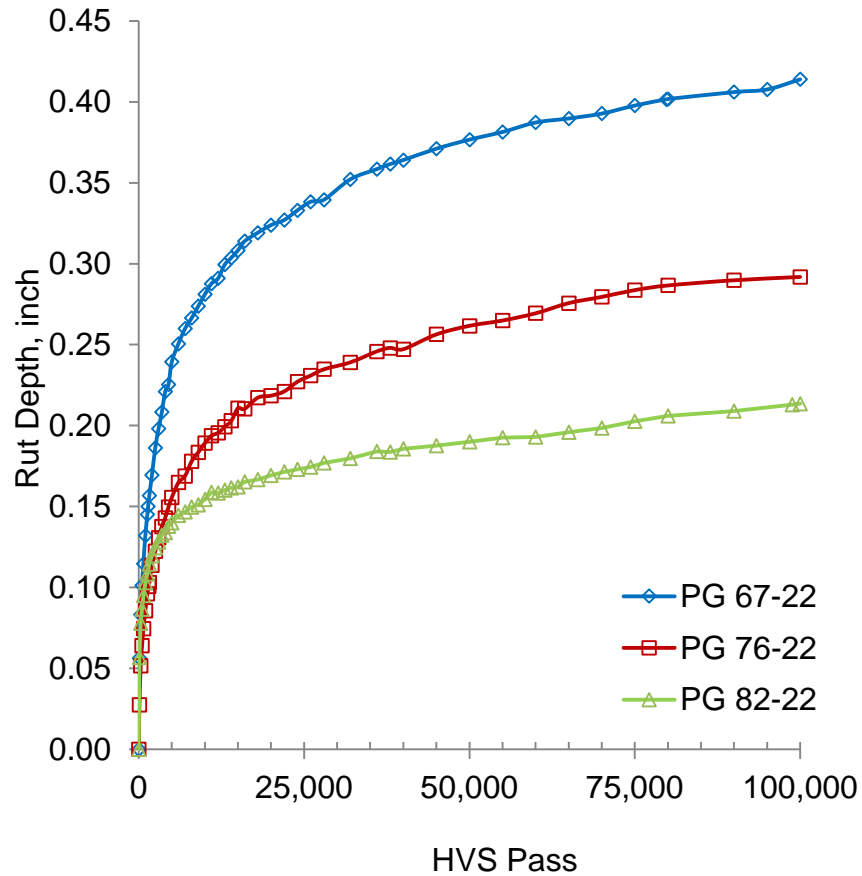
- Segregation Identification
  - Cores
  - Circular track meter/TM2
  - IR Camera



# High Polymer Binder

- Objective: Compare a high polymer binder with PG 76-22 for use at localized sections with a history of rutting and/or cracking
- Two binder contents will be evaluated for rutting and cracking
  - Design AC content
  - Design AC content + 0.5%
- Test pits and two 150 ft. lanes

# 2013 PG 82-22 Study



# Asphalt Density

- Objective: Provide guidance to inspectors when densities are not met
- Three densities will be targeted
  - 87%, 90%, and 93%
- One 450 ft. lane will be paved

# Tack Coat Rate

- Recent national research has suggested that inadequate tack coat rates may lead to top-down cracking
- Objective: Evaluate effect of tack coat rate on cracking resistance
- Three residual tack coat rates
  - 0.02 gal/sy, 0.04 gal/sy, 0.06 gal/sy, and
  - one unbonded section
- One 450 ft. lane will be paved



# FC-5 Thickness

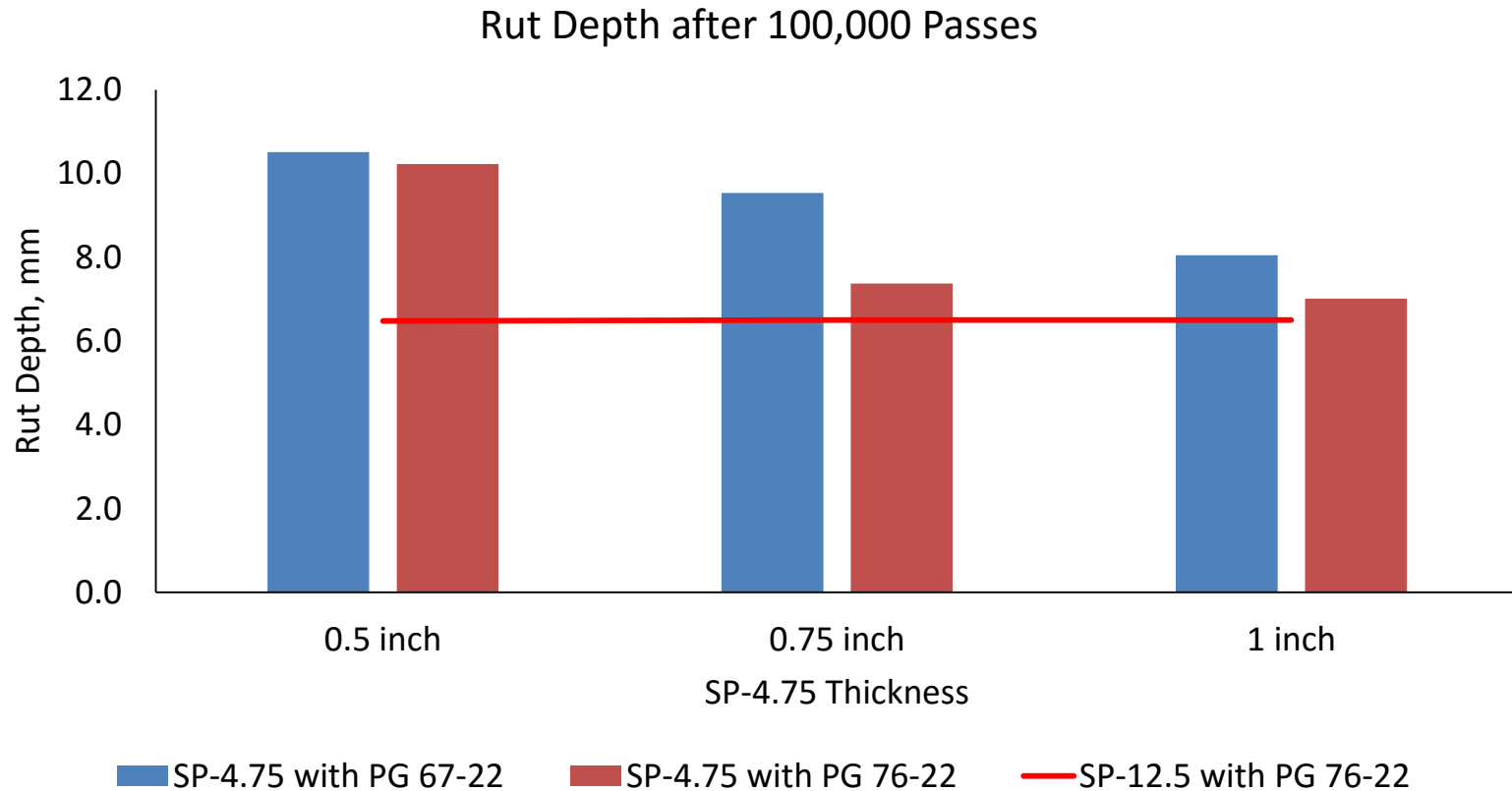
- Background: FC-5 may be placed  $> \frac{3}{4}$  inch due to design & construction limitations
- Objective: Determine rut resistance of thicker FC-5 lifts using PG 76-22 and PG 82-22 binders
- FC-5 will be placed at  $\frac{3}{4}$ ,  $1\text{-}\frac{1}{4}$ , and 2 inches thick
- Two 450 ft. lanes will be paved

# Other Research...

- APT report on SP-4.75 overlay thickness will be complete by the end of the year
- Experimental projects
  - Interlayers
  - Geosynthetic drainage layer
  - Base materials

<http://www.dot.state.fl.us/statematerialsoffice/pavement/research/reports/experimentalprojects.shtm>

# SP-4.75 Rutting Resistance



# SP-4.75 Cracking Resistance

