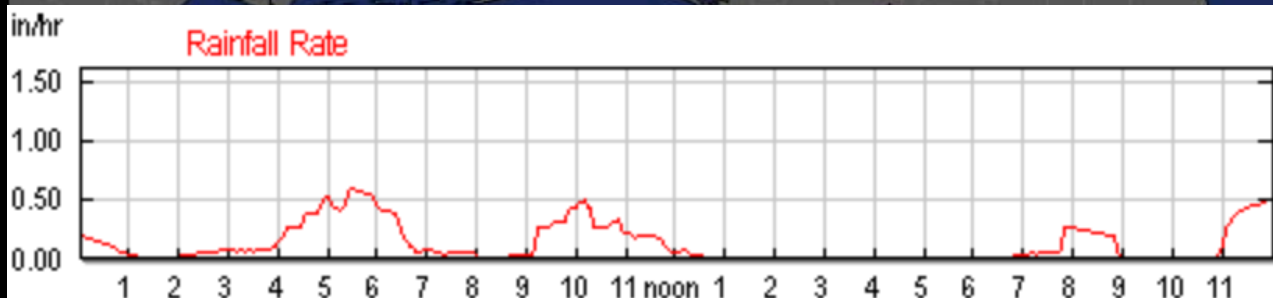
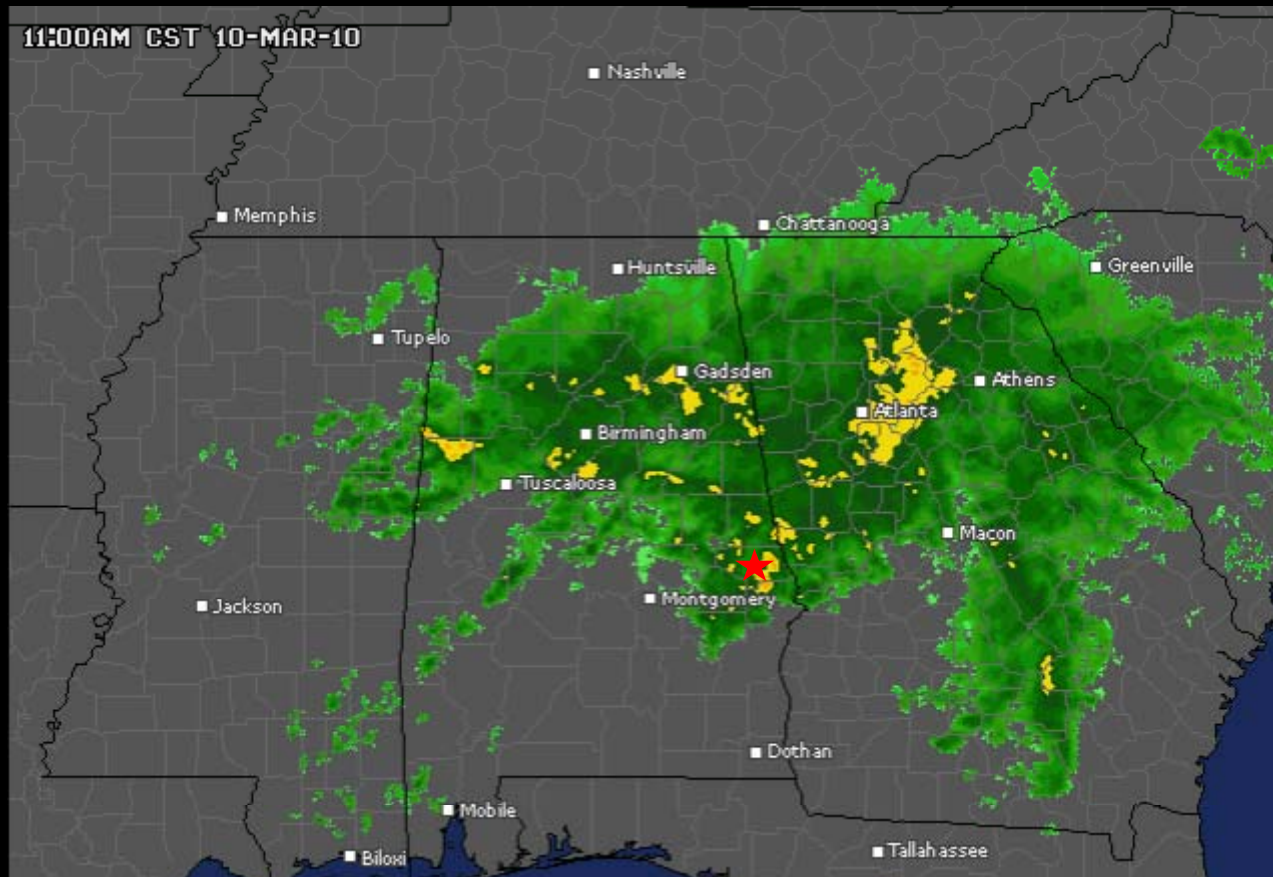


NCAT Pavement Test Track

PFC Test Sections



March 10, 2010



N1 (Spray Paved PFC @ $\frac{3}{4}$ ")



N2 (Tack Paved PFC @ 3/4")



N12 (12.5 Granite SMA)



N13 (9.5 / 12.5 Granite Twin PFC)



W1 (12.5 Granite SMA)



S2 (9.5 mm Gravel Superpave)



S3 (9.5 mm Gravel PFC @ 1")



S4 (12.5 mm Limestone PFC @ 1")



S8 (12.5 mm Granite PFC @ 1.25")



Spray Paver vs Conventional Tack



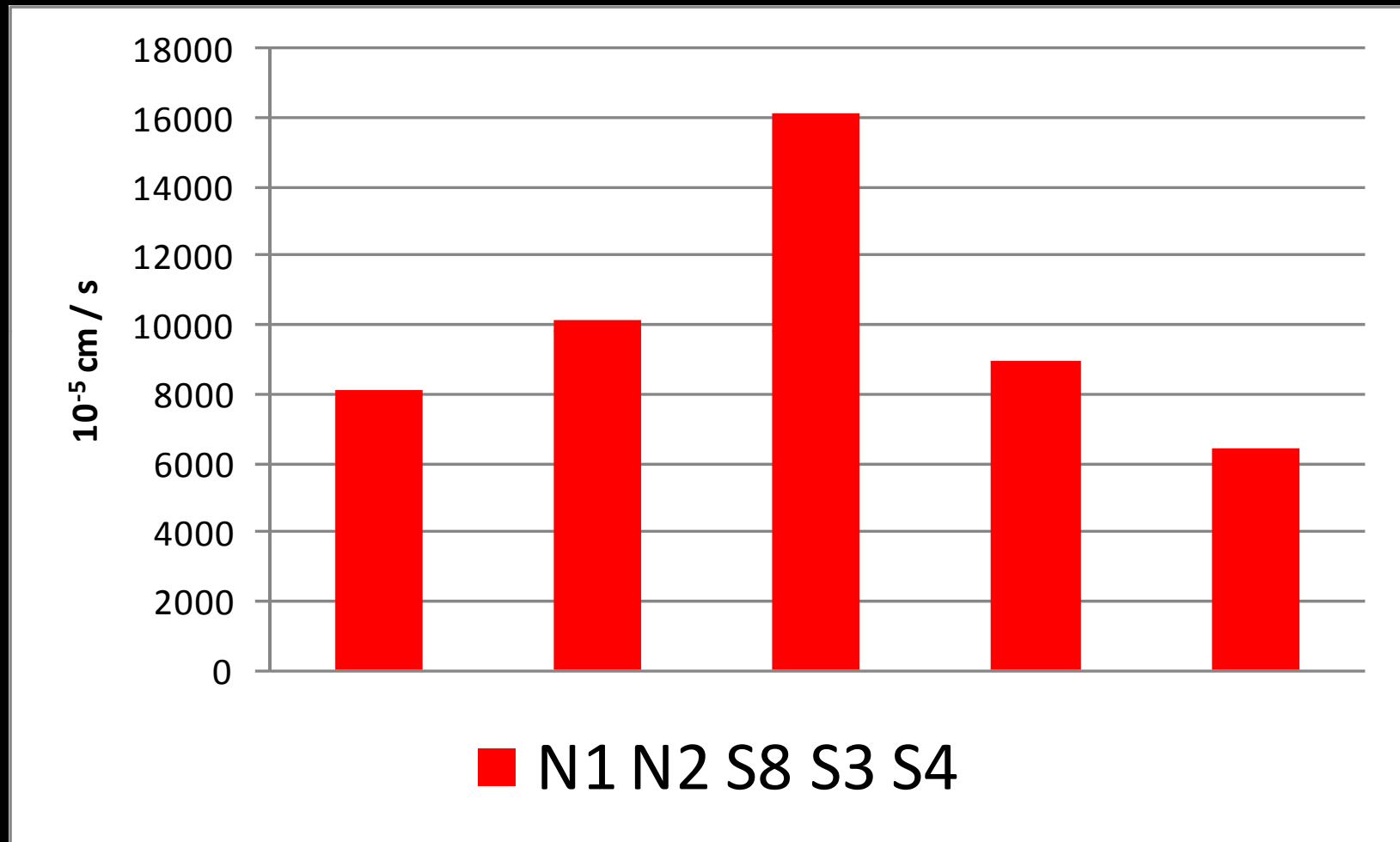
Conventional Tack



Spray Paver (Top) vs Conventional



Spray Paver vs Conventional Tack



NCAT Pavement Test Track

An aerial photograph of the NCAT Pavement Test Track. The track is a long, winding road that curves through a dense forest. On the right side of the track, there is a parking lot with several buildings, including a large green-roofed structure. The track itself is a multi-lane road with a central median and side shoulders. The surrounding area is mostly forested with trees in various shades of green and brown, suggesting a mix of deciduous and evergreen species.

**Alternative Binders and
Binder Modifiers**

Alternative Binders & Modifiers

- Sulfur (Thiopave)
- Kraton High Polymer
- Trinidad Lake Asphalt
- Ground Tire Rubber

Sulfur (Shell Thiopave)

- Replace up to 40% of Binder
- Pelletized (no molten sulfur)
- WMA to reduce emissions
- No plant modifications required

- Attention to detail (e.g., screed)

Kraton High Polymer

- Potential for thickness reduction
- Higher mix stiffness
- Increased fatigue resistance

- Consider strength of other layers

Trinidad Lake Asphalt

- Replaces 25% of liquid asphalt
- Material hasn't changed
- No plant modifications required

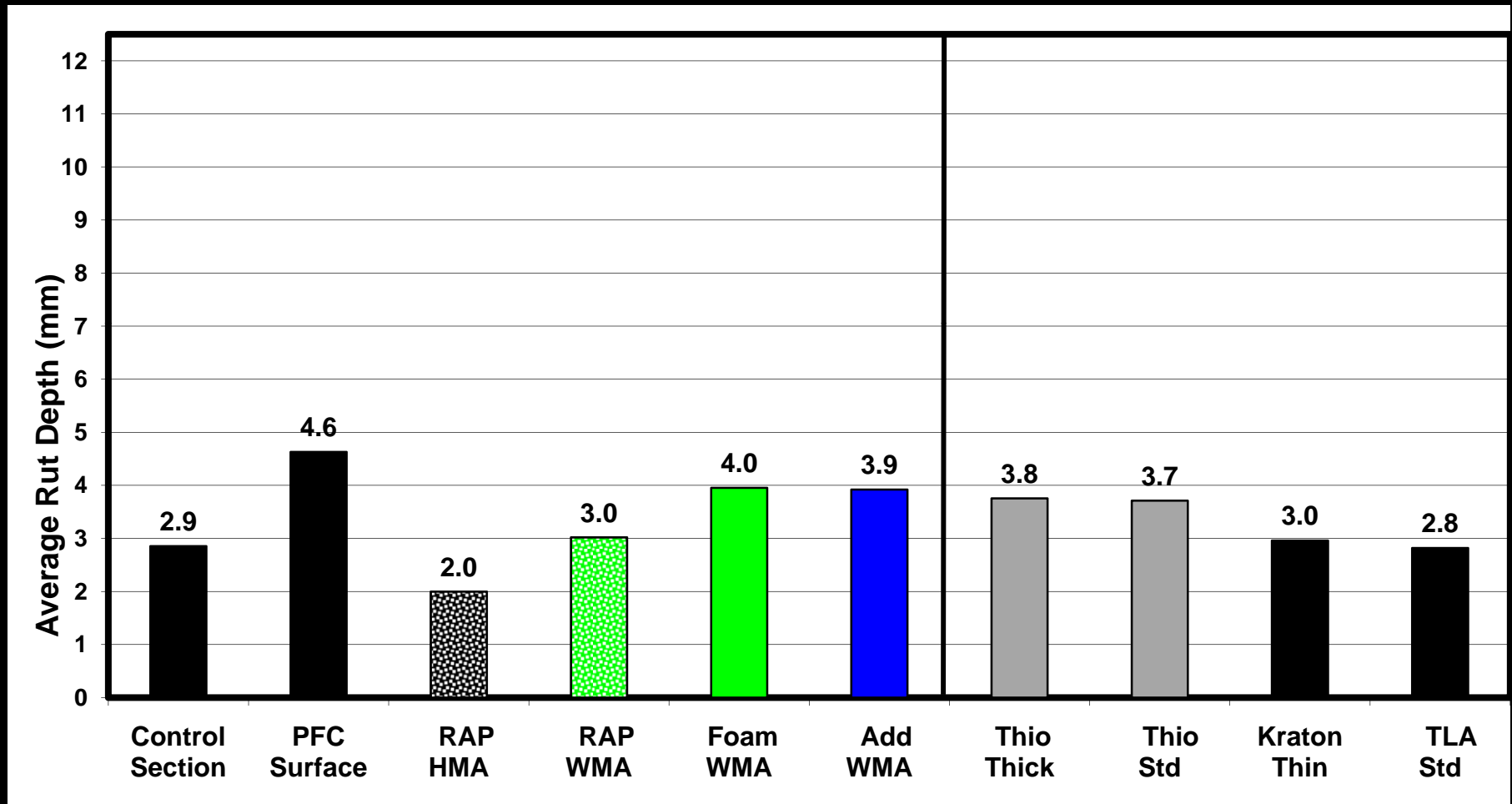
- Shipping and handling

Ground Tire Rubber

- Alternative to SBS
- Wet process with Vestenamer
- No plant modifications required

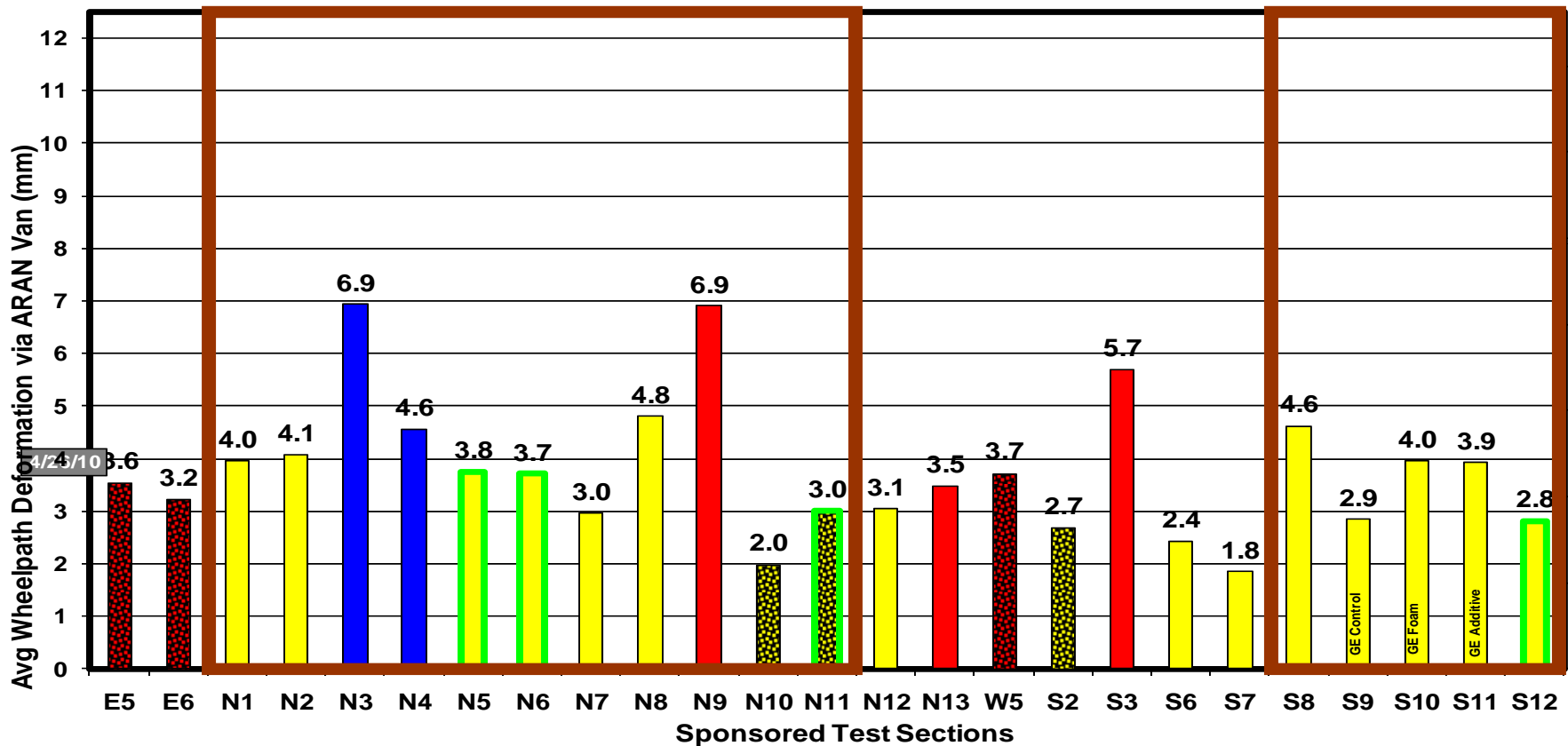
- Separation considerations

Group Experiment (+) "Rutting"



SBS vs GTR Modified PG76

Cycle of Construction by Color (Blue=2003, Red=2006, Yellow=2009); High RAP with Texture; WMA with Green Outline; Thinner Structural Sections in Brown Boxes (Others on Perpetual Foundations); Trucking Percent Complete via Height of Gray Test Date Box



Questions ?

