

Nova Scotia Asphalt User Producers- 2011

● Rosphalt 50-LT --- A 1- step Waterproofing/Wearing Course System

- 1) Eliminates Membrane and Protection Board
- 2) Uses standard paving equipment and best practices
- 3) More durable than other HMA lasting 3.5 times longer
- 4) More cost competitive to Torch/Spray applied systems
- 5) More cost competitive to Concrete Overlays

Rosphalt® performance

● Features:

- Skid resistance
- Waterproofing
- Smooth ride quality
- Resistance to fatigue
- Deformation resistance
- Durability
- Long life

● Benefits:

- Quick installation
- Ease of application
- Lower cost compared to other waterproof systems
- Use of conventional equipment

Plant mix modifier – what is it?

- Thermoplastic polymer based additive that is added as a powder directly to the mix
- Supplied in bags or in bulk form
- Very easy to implement with conventional HMA plant and equipment
- Currently projects in USA, Canada and China





Rosphalt® Advantages

- Dry mix additive
- Non-hazardous
- 1 step waterproofing/wearing course
- Greater flexibility (performance)
- More cost effective compared to other systems
- Less install time—Reduces traffic control concerns
- Outperforms Membranes with HMA overlays by 3.5 times
- Long Term durability (replaced concrete and epoxy overlays)
 - Menomonee Valley Bridge WiDOT
 - Triboro Bridge MTA Bridges & Tunnel
 - Tobin and Ruggles (Boston)
 - Ted Williams Boat Section
 - George Washington Bridge (1M vehicles per week)

Efficient and Effective Solution

- Getting In – Getting Out – Staying Out
- 250,000 Ft3 install time comparison estimate after deck prep!
 - Spray Applied System with HMA overlay – 23 days
 - Concrete Overlays – 21 days
 - Membrane with HMA overlay -7 days
 - Rosphalt® 50-LT - 3 days

**OPPORTUNITY TO PROTECT THE
PROVINCE'S INVESTMENTS**

The Performance

- Hydraulic Conductivity
- Volumetric Design and Compaction
- Density Development
- Volumetric and Workability
- Fatigue
- Flexibility

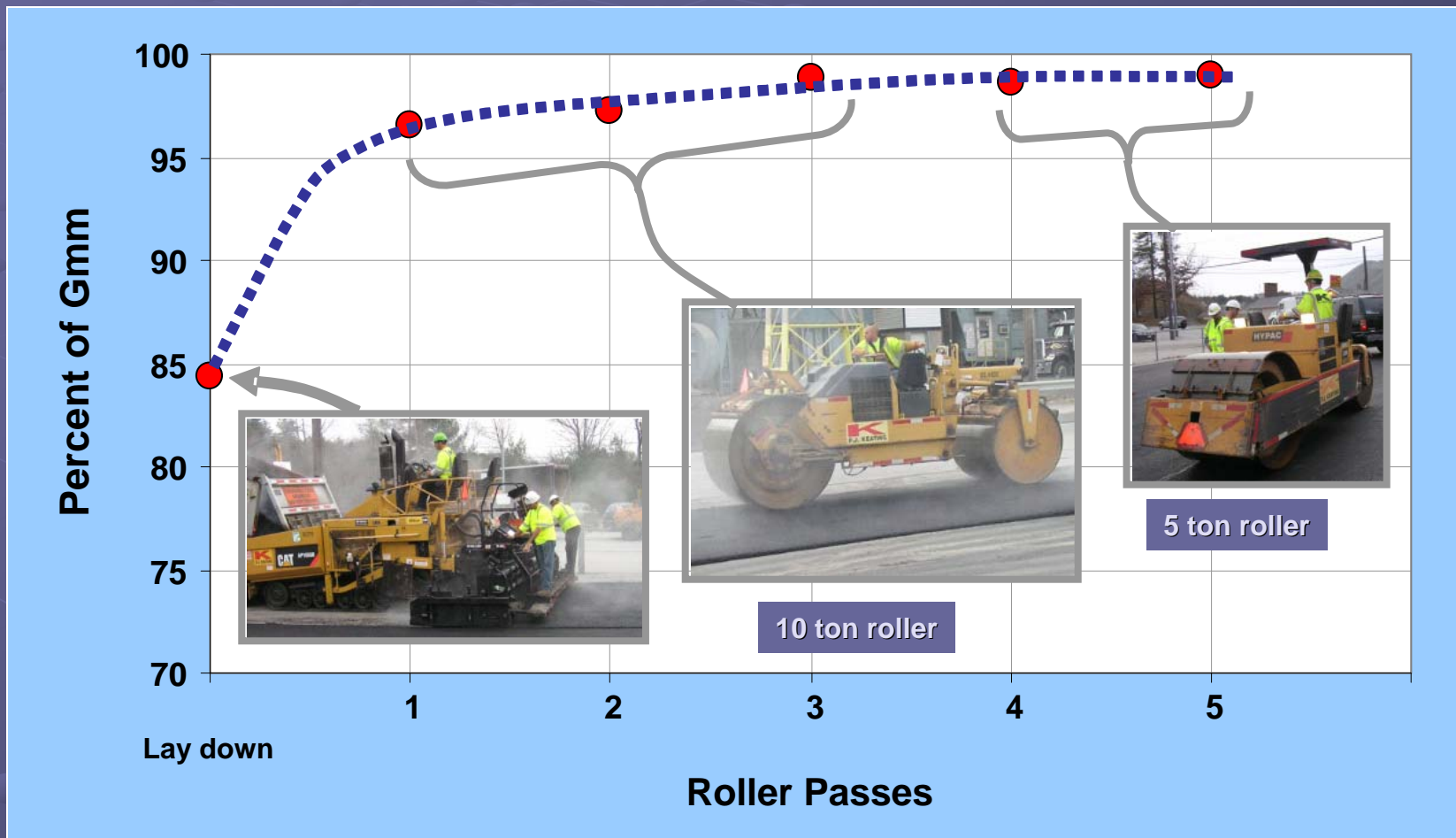
Volumetric design & compaction

- Most HMA or PMA designs at 4-7% AV (air void) while Rosphalt 50-LT <2% AV (air void) providing property values to enhance performance
- Rosphalt 50-LT provides the enhanced value:
 - Deformation resistance
 - Fatigue resistance
 - Low temp cracking resistance
 - Long Term Durability
 - Moisture resistance
 - Skid resistance
 - Better Workability

Rosphalt JMF exceeds all other HMA's and will not ravel or fall apart!

Rosphalt volumetric designs have long history of proven success.

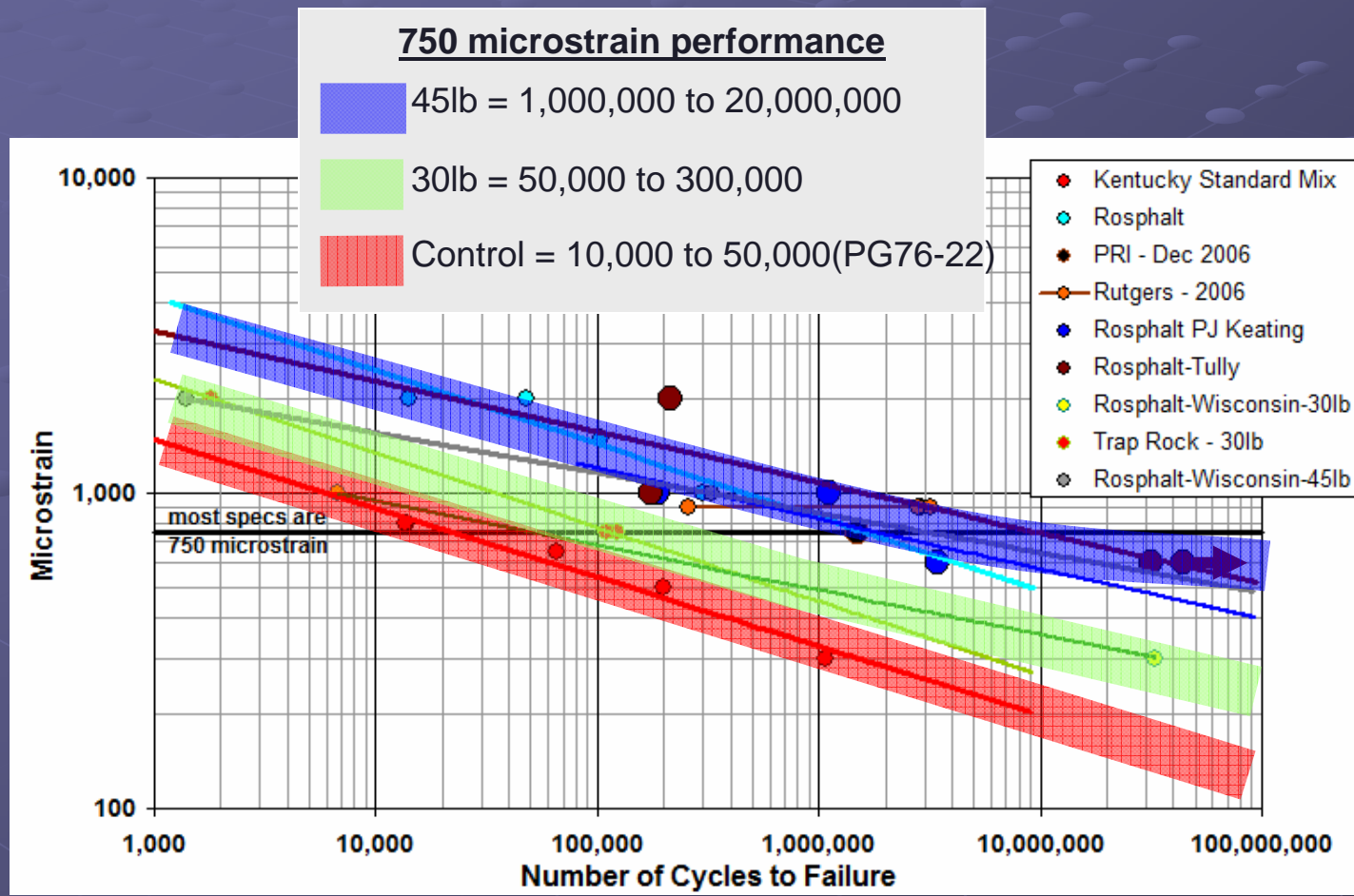
Density development, field



Volumetrics and workability

- Rosphalt 50-LT gets density quickly—even when rollers are in static mode.
 - Case in point N_{des} @50 blows Vs 75 or 100 with other HMA or Superpave designs.
- Optimal binder for Rosphalt process is point at which mastic skeleton is optimized – A visco-elastic thermoplastic flexible binder
- Density development in field validated all laboratory work

Rosphalt LT Flexible Beam Fatigue



Performance of Old and LT is the same. Data suggests no significant difference with LT product.

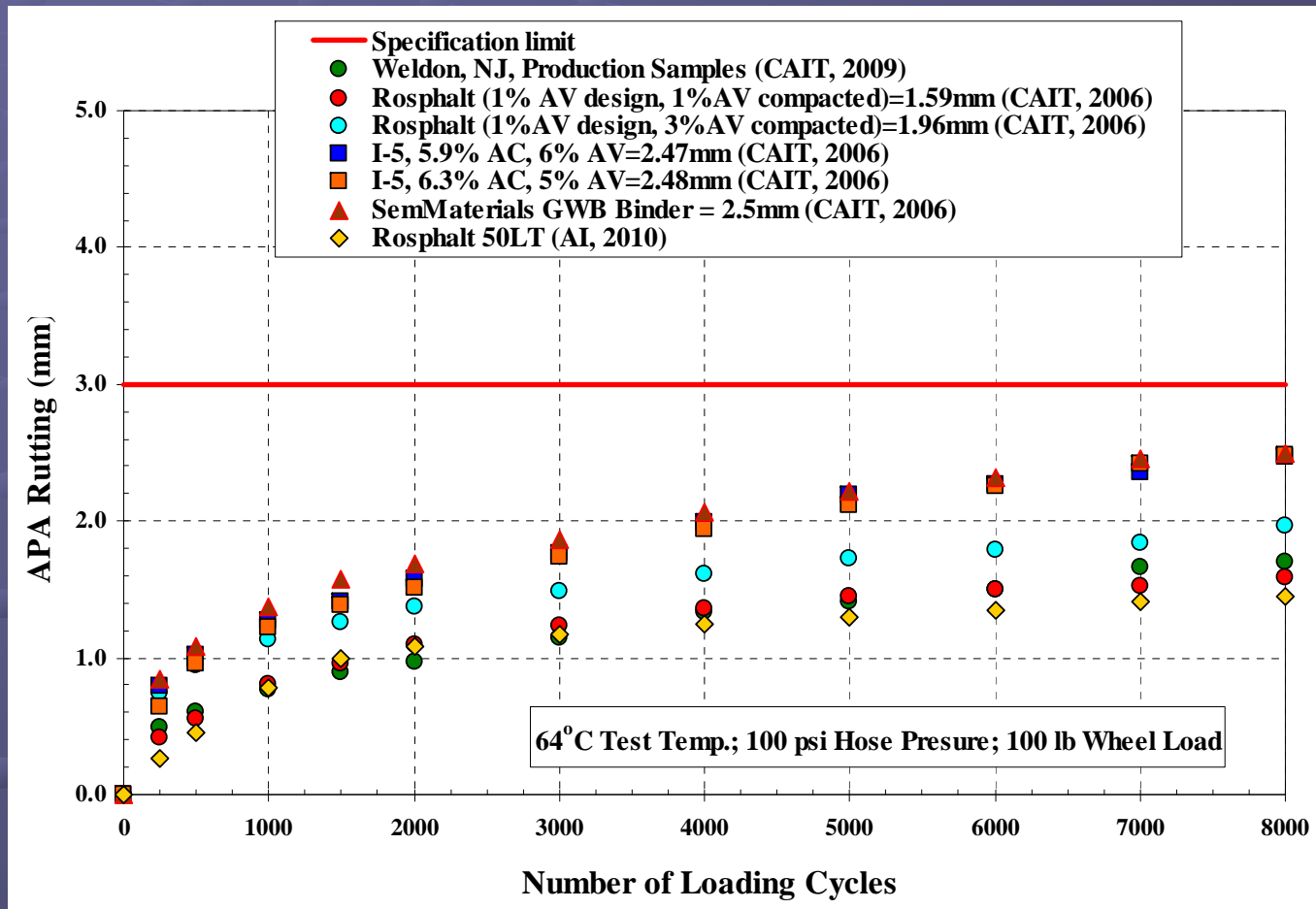
Flexibility

- Rosphalt 50-LT materials all have significantly lower stiffness
 - KY Standard = PG76-22

Average E^* , MPa

KY Standard	4,400
Rosphalt	1,370

APA Rut Analysis



Rosphalt® – Paving the way

Less install time and fewer lane closures

**23,000 tons
installed in 15 days
no road closure**



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Rosphalt[®] value

When the paving application is difficult and traffic control is critical....think Rosphalt[®]

Thank You!

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