



Virginia Center *for* Transportation
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Virginia Quiet Pavement Implementation Program

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VAA 24th ANNUAL FALL ASPHALT CONFERENCE
RICHMOND, VA
October 4, 2011

2011 Gen. Assembly - HB 2001

“expedite the development of quiet pavement technology such that applicable contract solicitations for paving shall include specifications for quiet pavement in any case in which sound mitigation is a consideration. To that end, the Department shall construct demonstration projects sufficient in number and scope to assess applicable technologies.”



Quiet Pavement Task Force

Co-Chairs:

Andy Babish, PE, State Materials Engineer

Richard Schreck, Executive Vice President, VAA

Members:

Emmett Heltzel, PE, VDOT Maintenance Division Administrator

Trenton Clark, PE, VAA Director of Engineering

David Lee, PE, VDOT Salem District Materials Engineer and
Chairman VTRC Asphalt Research Advisory Committee

Paul Kohler, VDOT Noise Abatement Section Manager

Michael Sprinkel, PE, VTRC Associate Director of Research

Kevin McGhee, PE, VTRC Associate Principal Scientist

Ed Dalrymple, Vice President, Chemung Contracting

David Helmick, Vice President, Superior Paving Corp.

Bob Long, American Concrete Pavement Association

Del. Jim Lemunyon, JCTA Subcommittee on Quiet Pavements



“Quiet” Pavement

What it is:

- General – wearing surface that minimizes tire-pavement noise production and propagation
- Asphalt – “small-textured” porous mix (e.g., open-graded asphalt concrete)
- Concrete – negative-textured longitudinal grind and groove (e.g., “Next Generation Concrete Surface”)

What it isn't:

- A universal substitute for noise barriers

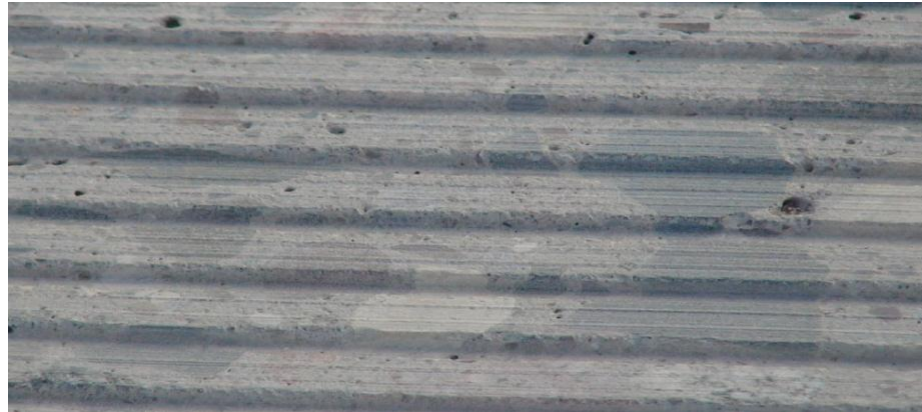


“Quiet” Pavement

- Asphalt:



- Concrete:



Noise Measurement

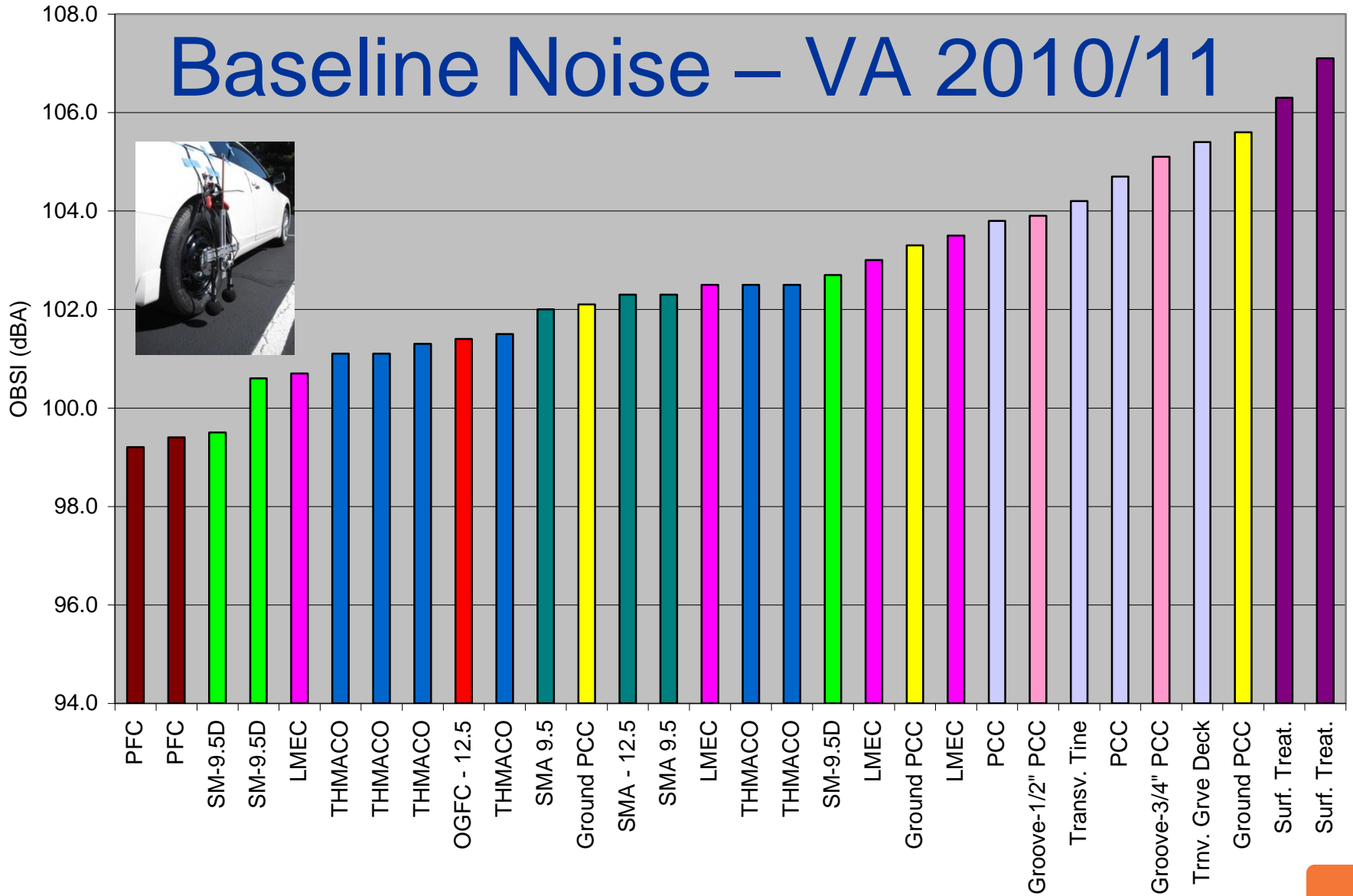
On-Board Sound Intensity (OBSI)



Wayside



Baseline Noise – VA 2010/11



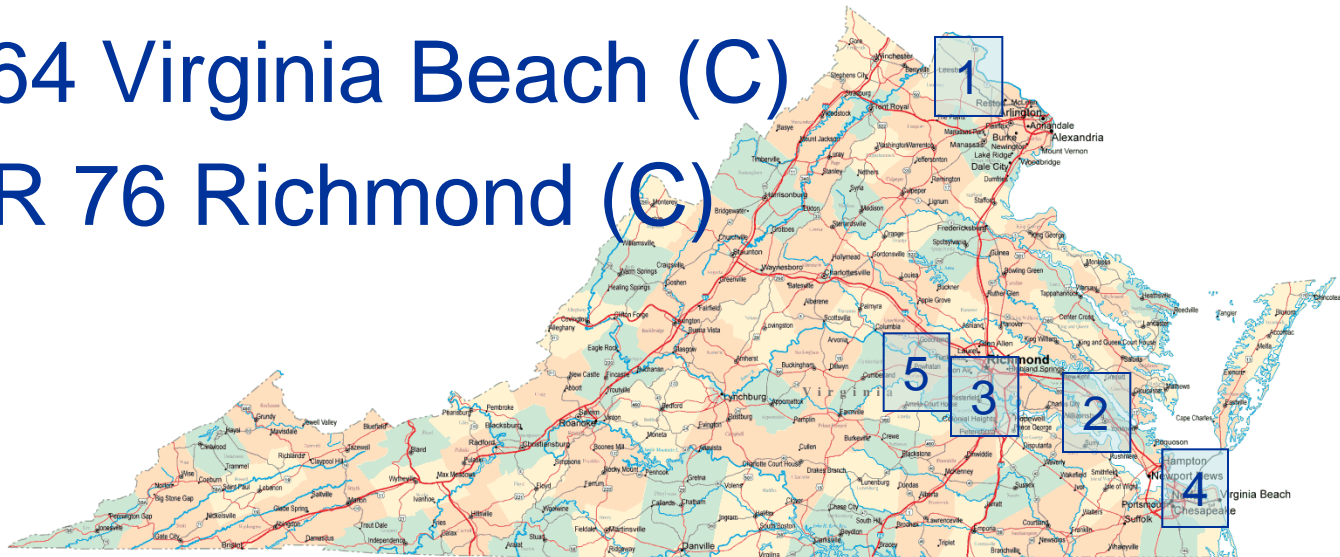
Demonstration Projects

- Four-lane divided, high-speed corridor
- Good overall pavement structure
- Good geometrics
- Limited at-grade intersections
- 1-mile per asphalt technology/ ½-mile for concrete
- No curb/gutter or existing sound mitigation measures

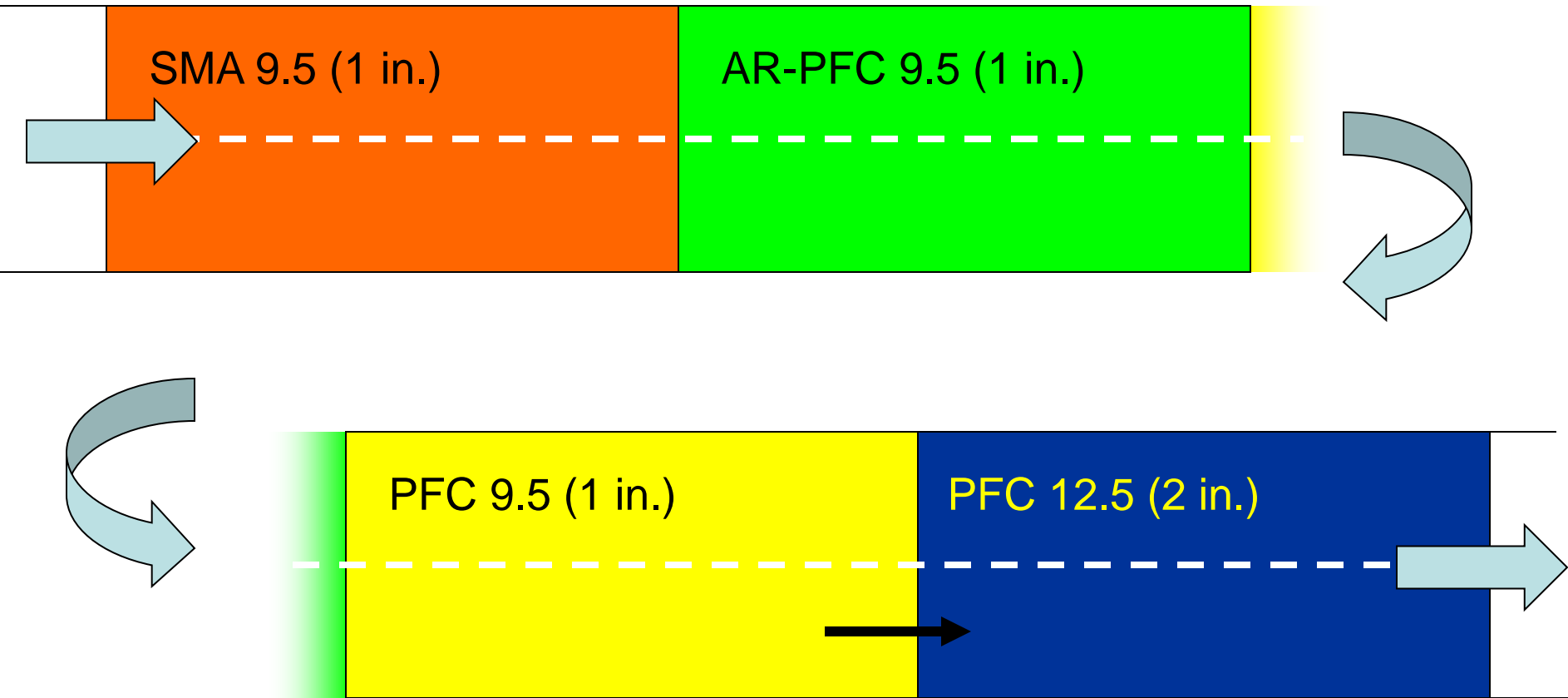


Demonstration Projects (2011)

1. SR 7 By-Pass in Leesburg (A)
2. SR 199 west of Williamsburg (A)
3. SR 288 near Chester (A)
4. I-64 Virginia Beach (C)
5. SR 76 Richmond (C)



Demonstration Projects (Asphalt)

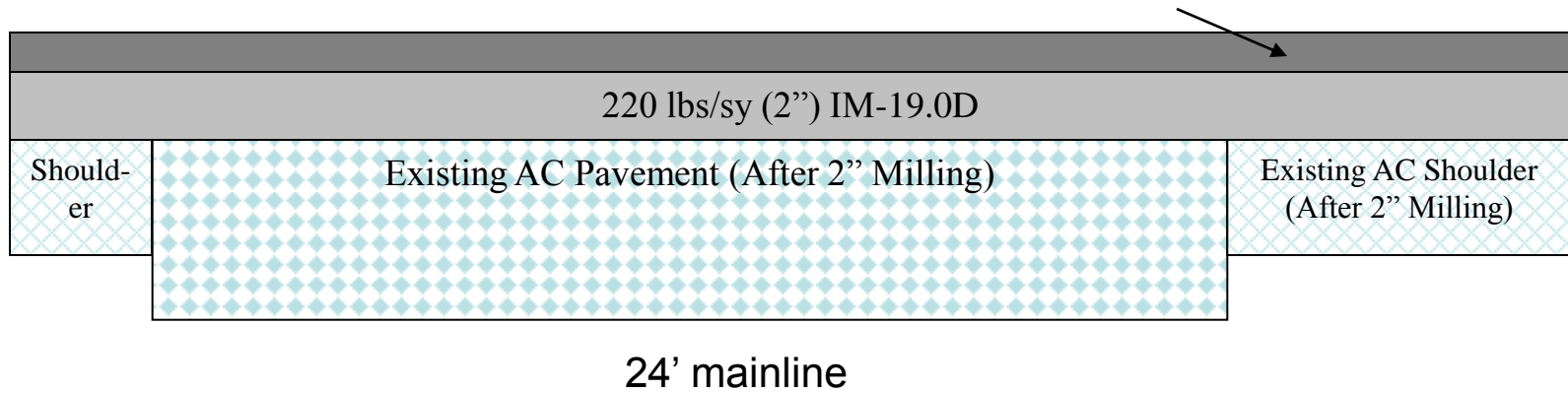


Plan View



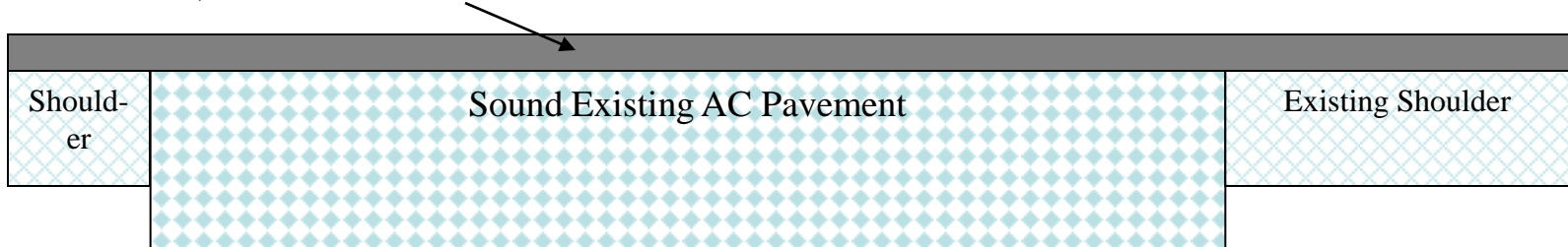
Demonstration Projects (Flexible Base)

90 lbs/sy (1.0") PFC/AR-PFC 9.5 or 180 lbs/sy (2") PFC 12..5 or 165 lbs/sy (1.5") SMA 9.5



24' mainline

90 lbs/sy (1.0") PFC/AR-PFC 9.5



Typical Section

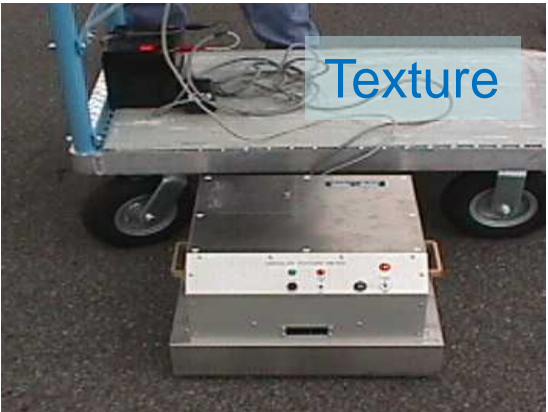


Evaluation Plan

- Performance
 - Tire-pavement & wayside noise
 - Skid resistance, ride quality, and splash-spray
 - Material and structural stability
- Also Relevant
 - Constructability & cost
 - Winter function and maint. requirements
 - Federal Policy!!



Functional Evaluation



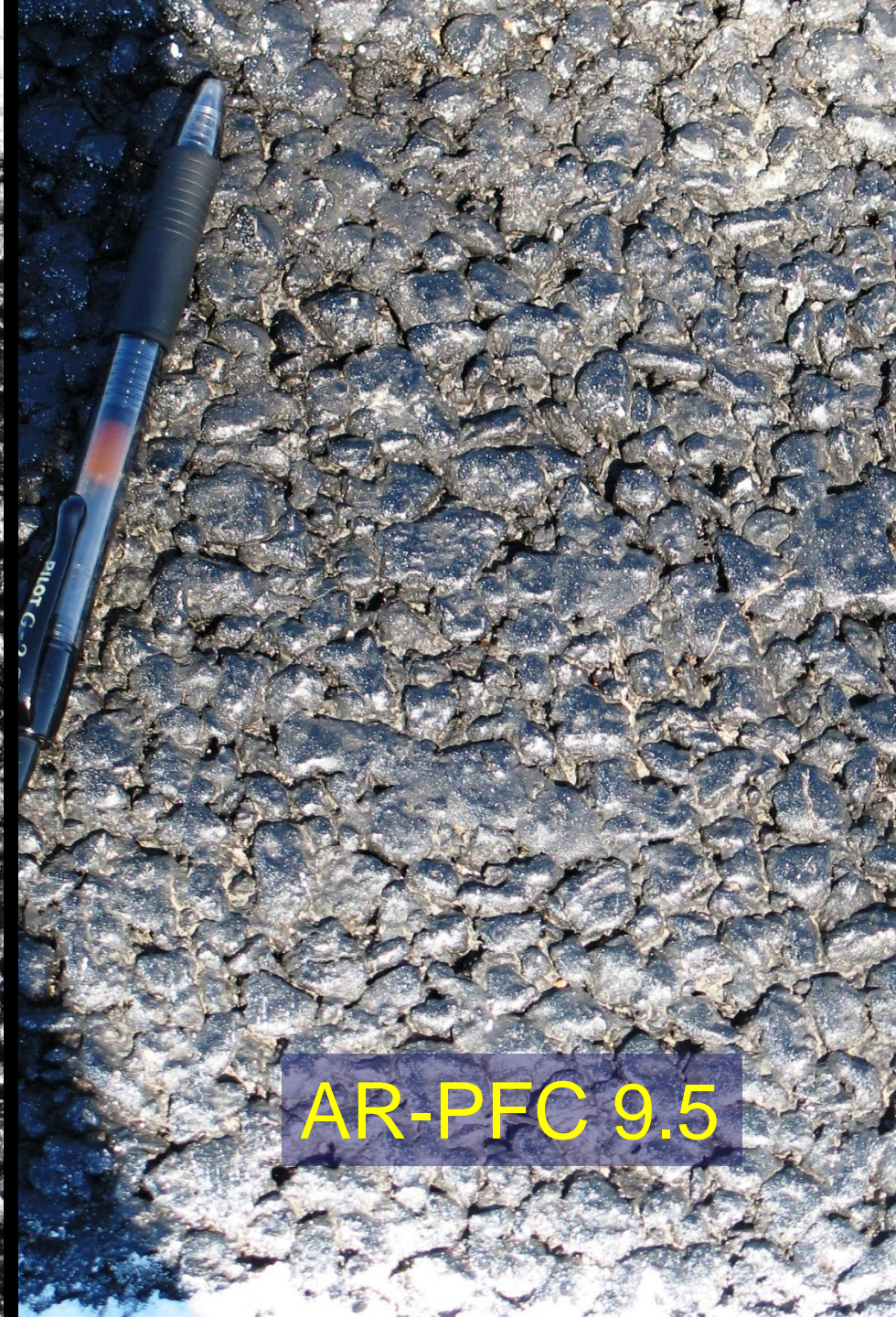
Asphalt Project Status – Oct 2011

1. Leesburg (A) – Superior Paving
 - Installation complete
2. Williamsburg (A) – Branscome Inc.
 - Major activity (PFC test strips, etc.) last week?
 - Production work – now?
3. Chester (A) – Branscome Inc.
 - PFC Trial – last week?
 - Remaining test sections/paving - imminent





PFC 12.5



AR-PFC 9.5

Planned 2012 Activities

- Accelerated Testing
 - 2 sections at NCAT Track



- 2012 Demonstration Projects?
 - Two-layer PFC 9.5
 - SMA 4.75
 - NGCS



HB 2001 (cont.)

- The bill further directs The Department to evaluate the installed technologies and provide an interim report in June 2012, as well as a final report in June 2013. Among other things this final report is to include “...a plan for routine implementation of quiet pavement...”

