



Virginia Center *for* Transportation
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We bring innovation to transportation.

Virginia Quiet Pavement Pilot Program

Gary Allen, PHD
Chief of Technology
VAA - Spring 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

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



QPTF Mission: Successful Implementation of Quiet Pavement Technologies in Virginia

Objectives:

- Develop criteria for site selection and performance evaluation
- Identify “hot spots” for noise mitigation
- Identify candidate sites for application of technologies
- Determine which quiet pavement systems are appropriate for use in Virginia
- Identify & address barriers to implementation

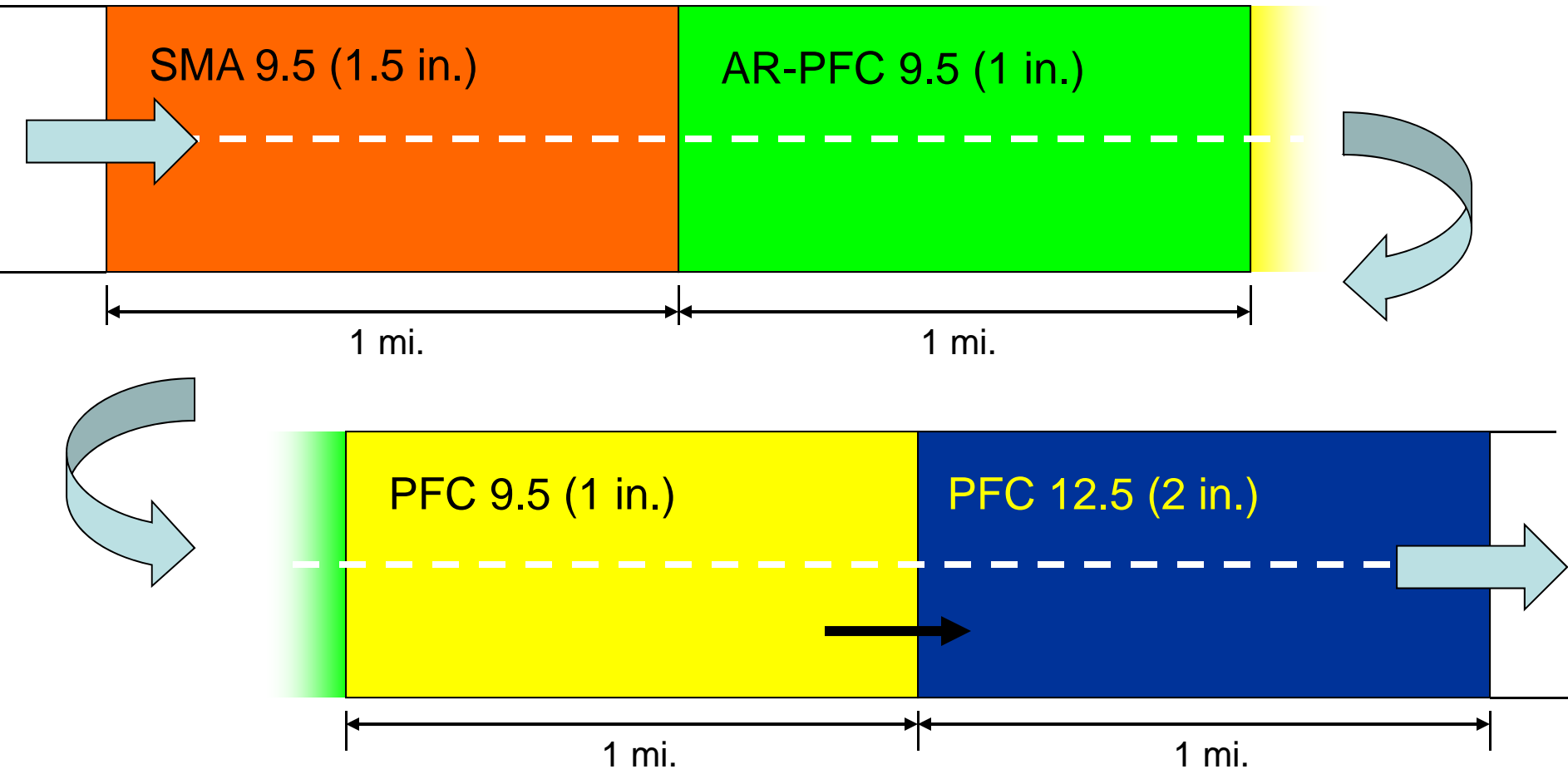


Demonstration Projects

- 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

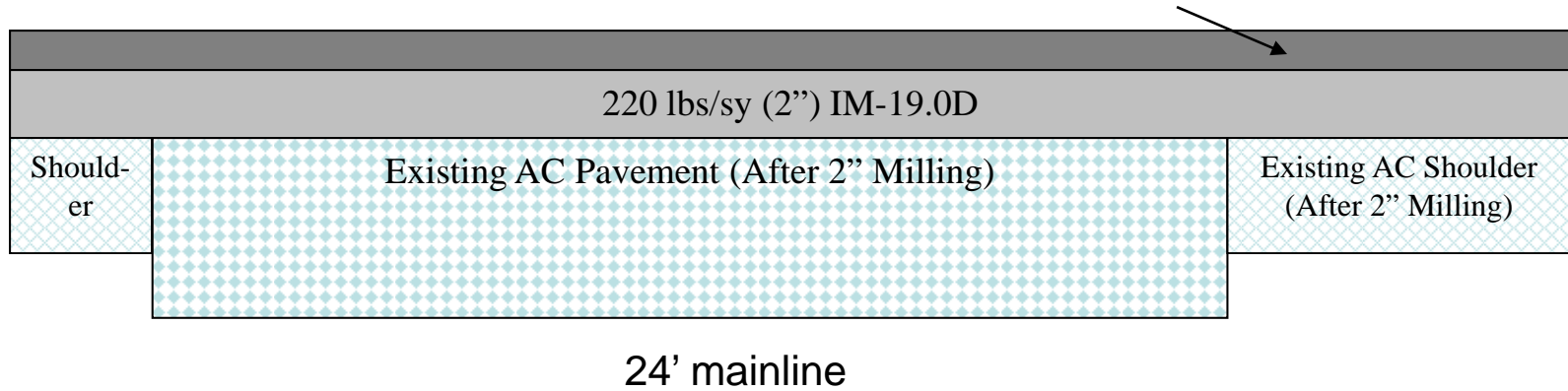


Demonstration Projects (Asphalt)



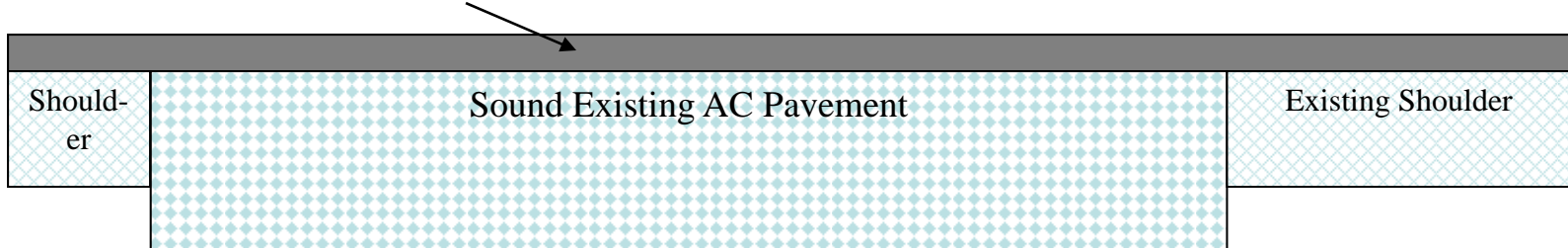
Demonstration Projects (Flexible Base)

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

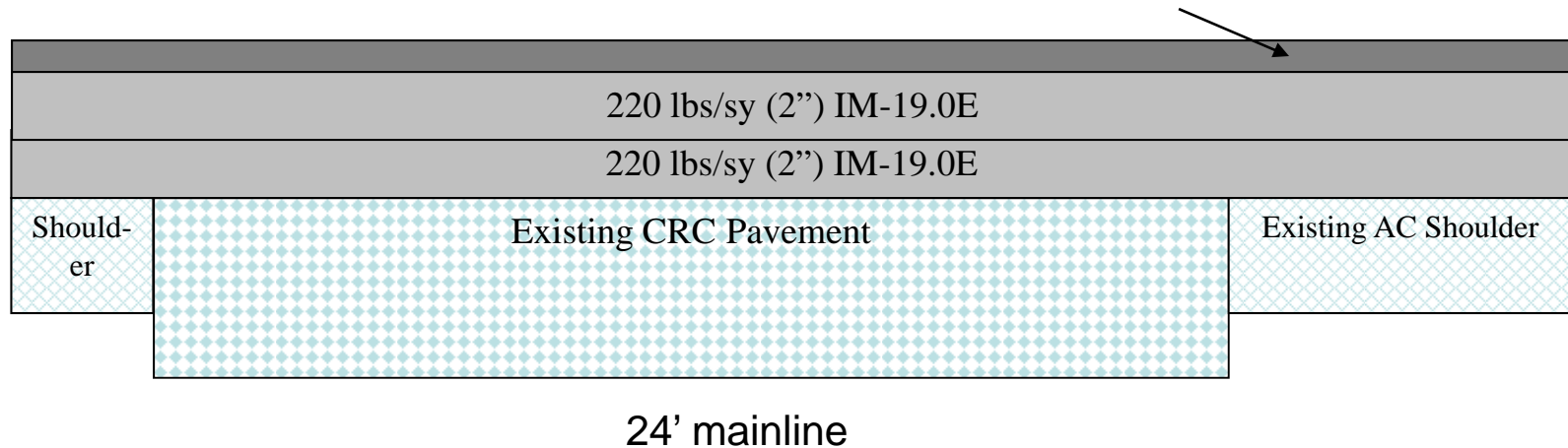


Typical Section



Demonstration Projects (Rigid Base)

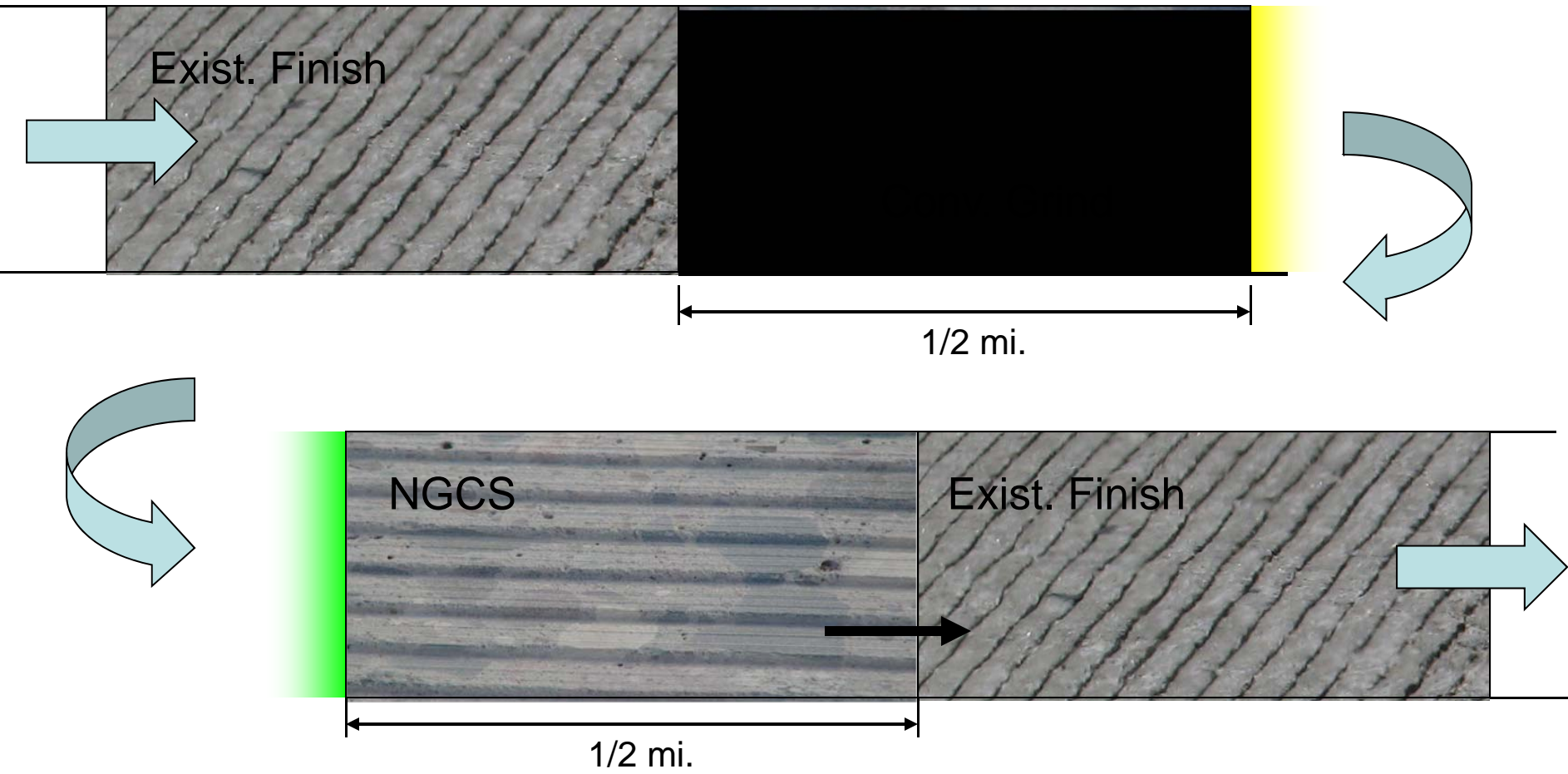
90 lbs/sy (1.0") PFC/AR-PFC 9.5 or 180 lbs/sy (2") PFC 12..5 or 165 lbs/sy (1.5") SMA 9.5



Typical Section



Demonstration Projects (Conc)

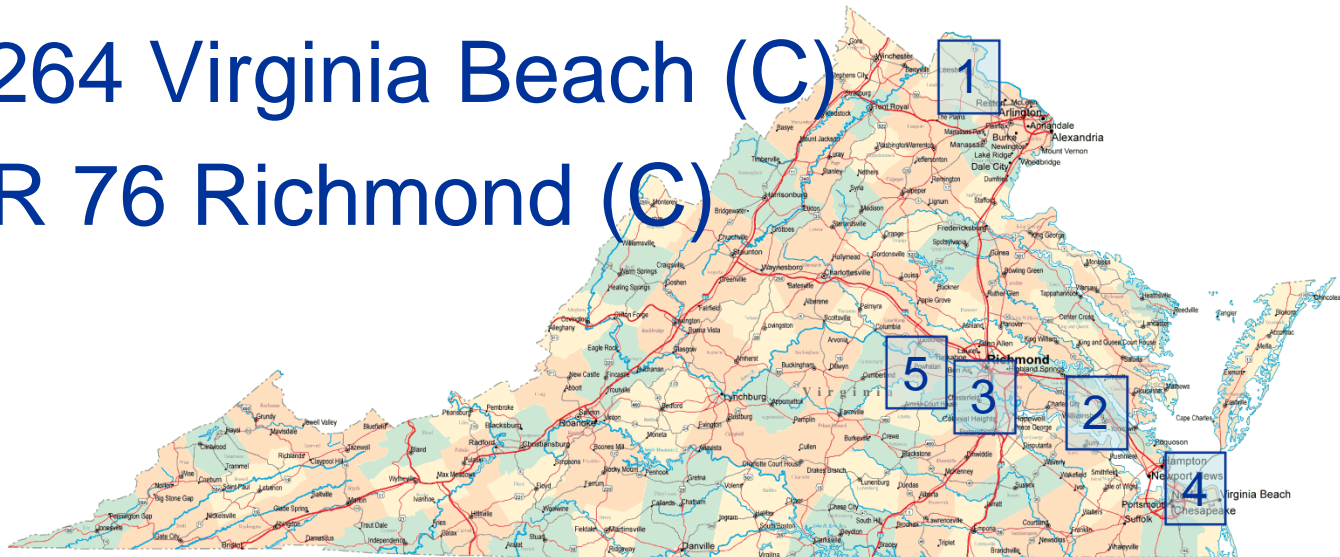


Plan View



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-264 Virginia Beach (C)
5. SR 76 Richmond (C)

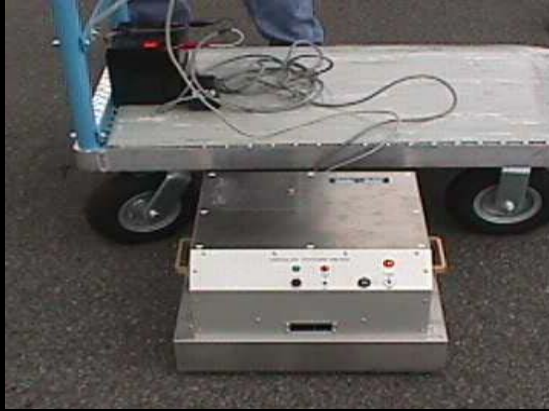


Evaluation Plan

- 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



Demonstration Projects (2012)

- NCAT Accelerated Test Track



- Continue field projects in Virginia



Estimated Budget

- Estimated Pilots: \$20 to \$24 million
- Research: Approximately \$1.2 to \$1.5 million
 - NCAT Trials - \$720,000 to \$1 million
 - VTTI Contract - \$250,000
 - VCTIR/VDOT In-house -\$210,000



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...”





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Questions?

