



VIRGINIA ASPHALT ASSOCIATION ANNUAL MEETING

 Rob Cary, P.E., L.S.

April 2019

State of Good Repair Program

- Requires the program to fund deteriorated pavements on the Interstate and Primary systems for VDOT and locally maintained assets
- Estimated State of Good Repair Program pavement allocation
 - VDOT/local - \$70 million per year starting in FY 2021
- VDOT's Maintenance and Operations Program will continue to focus funding to the routine maintenance and reconstruction of pavements on all systems



Locally Administered Projects (LAP)

Locally Administered Projects

- VDOT Compliance Assessment Program established in 2011
- New LAP qualifications program establishing consistent training requirements for all localities administering federal projects (Summer 2019)
- Frequent internal and external collaboration: exchange ideas and identify streamlining measures to improve project delivery
- Locally Administered Projects Manual provides guidance, requirements roles and responsibilities

Locally Administered Projects Manual

- ✓ LAP Manual available at virginiadot.org
- ✓ Outlines major and sub-processes
- ✓ Includes VDOT oversight responsibilities
- ✓ Focuses on federally funded projects and includes applicability of requirements for each area



Locally Administered Projects Manual

Chapter 13 – Project Delivery

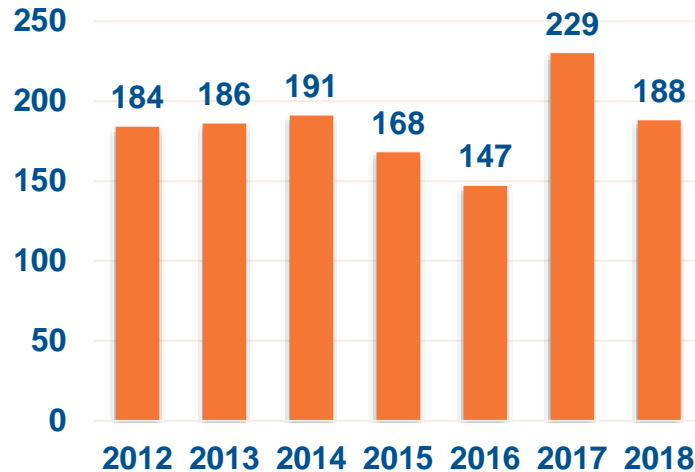
- ✓ Chapter 13.1 – Construction Administration
- ✓ Chapter 13.2 – Materials Quality Assurance
- ✓ Chapter 13.3 – Change/Work Orders
- ✓ Chapter 13.4 – Claims



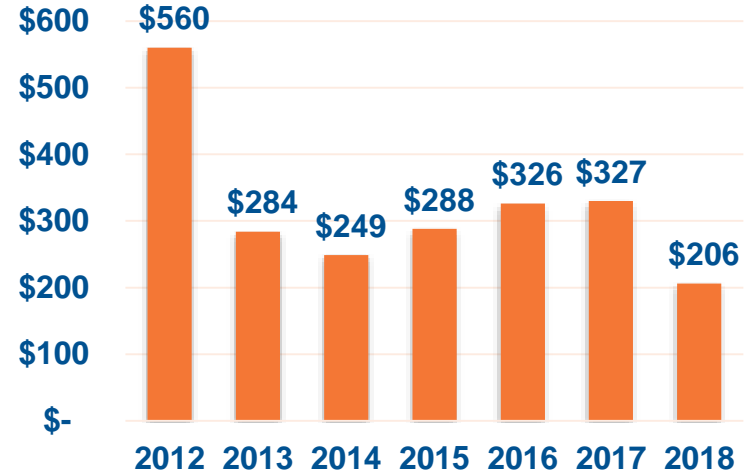
Local Program Growth

LAP Construction Advertisements CY 2012 - 2018

Project Count



Project Value (Millions)



Note: 2012 data includes Chesapeake's Dominion Blvd - \$320M

- **CY 2019 Planned: 169 Projects/\$387M**

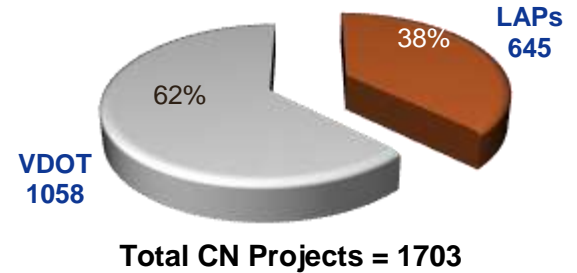
Local Program Size Today

Active Projects in SYIP Project Suite

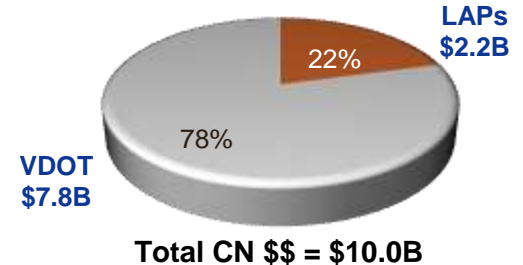
Active LAP CN Projects and LAP CN Dollars (based on SYIP)

| District | LAP Projects | % of LAPs | LAP CN \$\$ | % of LAP \$\$ |
|-------------------|--------------|-----------|-----------------|---------------|
| Bristol | 54 | 8% | \$37,620,848 | 2% |
| Culpeper | 37 | 6% | \$86,515,481 | 4% |
| Fredericksburg | 29 | 4% | \$25,743,961 | 1% |
| Hampton Roads | 108 | 17% | \$735,406,041 | 34% |
| Lynchburg | 25 | 4% | \$40,794,330 | 2% |
| Northern Virginia | 195 | 30% | \$848,922,247 | 39% |
| Richmond | 100 | 16% | \$275,540,941 | 13% |
| Salem | 53 | 8% | \$72,597,828 | 3% |
| Staunton | 44 | 7% | \$51,900,206 | 2% |
| Totals | 645 | | \$2,175,041,883 | |

LAP Percent of Total CN Projects



LAP Percent of Total CN \$\$



Local Program Size Looking Forward

Projects Planned for Award FY 2020 – FY 2025

LAP Percentage of CN Projects
1412 Projects



LAP Percentage of CN \$\$
\$6.4 Billion



Cost Estimates

| | |
|----------|---|
| 1 | Recent bid increases |
| 2 | Evaluating market trends |
| 3 | Committee established to evaluate DB estimate process |
| 4 | Reviewing DB vs DBB |



Interstate 81 Improvement Plan



I-81 Corridor Improvement Study complete



Governor Northam amendment to fund improvements



Amendment includes:

- Increased truck registration fees
- Increased diesel + road tax
- 2.1 percent increase motor fuels tax along 81



Amendment accepted by House and Senate

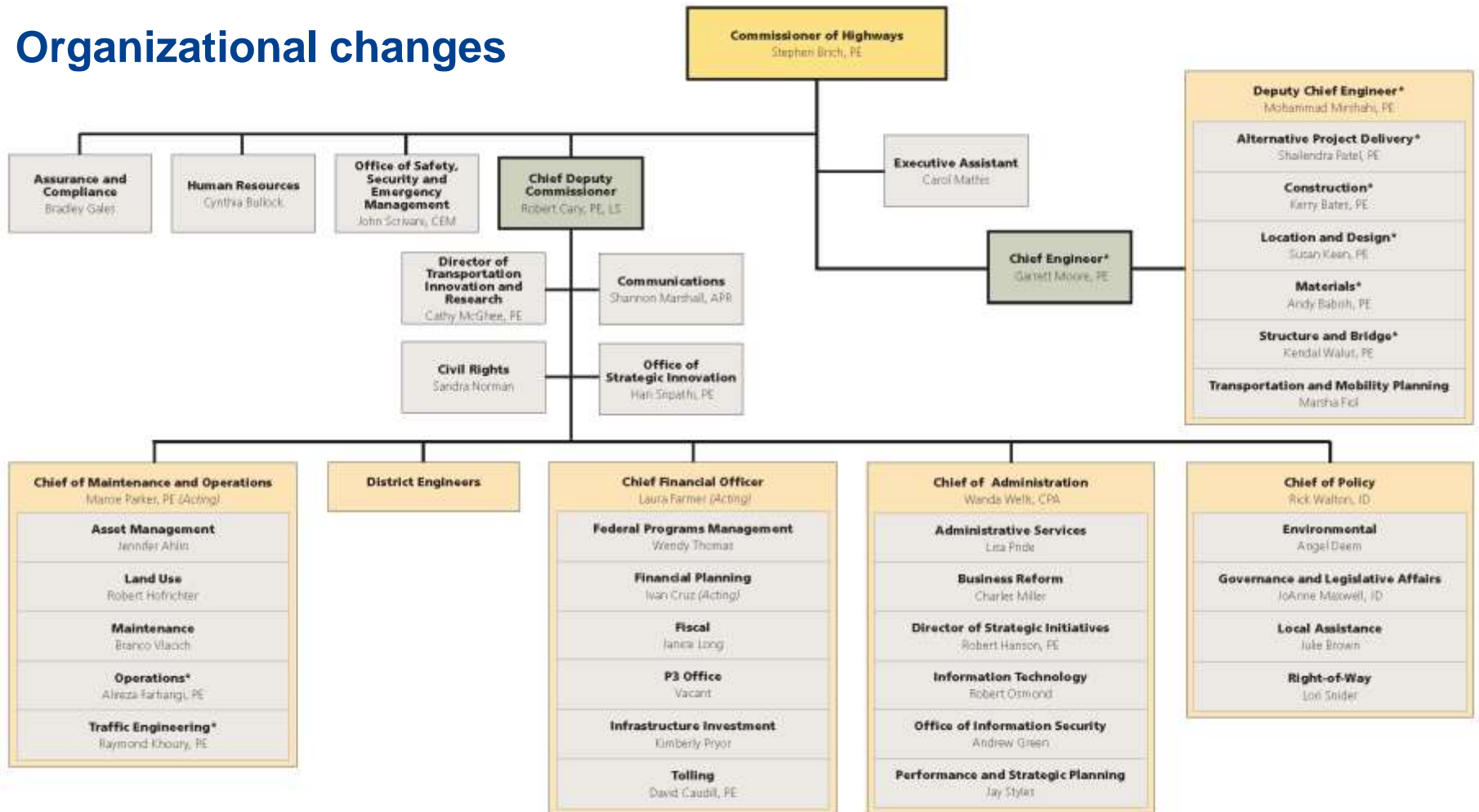
Revenue Distribution - Preliminary

| | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| Interstate 81 Corridor Improvement Fund | 96.4 | 122.4 | 152.1 | 152.0 | 151.8 | 152.1 |
| Interstate 95 Corridor | 18.0 | 26.9 | 39.5 | 39.5 | 39.5 | 39.5 |
| Interstate 64 Corridor | 12.7 | 18.9 | 27.8 | 27.8 | 27.8 | 27.8 |
| NVTA Fund | 9.2 | 13.7 | 20.2 | 20.1 | 20.1 | 20.1 |
| Other Improvements to Interstates | 19.6 | 29.2 | 42.9 | 42.9 | 42.9 | 42.9 |
| TOTAL | 155.8 | 211.1 | 282.5 | 282.3 | 282.0 | 282.4 |

Interstate 81 Improvement Plan: Up Next

- ▶▶ Awaiting final calculations from Taxation and DMV
- ▶▶ Internal prioritization of projects
- ▶▶ Operations solutions first out-of-the-gate
- ▶▶ I-81 Advisory Committee to be established
- ▶▶ VDOT Plan presented to I-81 Advisory Committee
- ▶▶ VDOT Plan presented to Commonwealth Transportation Board

Organizational changes



Organizational changes

Chief of Maintenance and Operations

Reporting to Chief Deputy Commissioner

- **Maintenance**
- **Operations and Emergency Management**
- **Land Use**
- **Asset Management**
- **Traffic Engineering**

- **Districts**
 - Reporting to Chief Deputy Commissioner

Chief Engineer

Reporting to Commissioner

- **Construction**
- **Location and Design**
 - **Materials**
- **Structure and Bridge**
- **Alternative Project Delivery**
- **Transportation and Mobility Planning**

Paving Leadership Group

- ▶▶ Comprised of reps from industry and VDOT
- ▶▶ Provides formal opportunities to propose specs/spec revisions
- ▶▶ Creates opportunities for communication and open dialogue
- ▶▶ Focus on:
 - Materials
 - Construction
 - Maintenance

Share your innovative ideas:

- 
- **Pavement Leadership Group**
 - Kerry Bates (VDOT), co-chair

- **Statewide Asphalt Cooperative Committee**
 - Rob Crandol (VDOT), co-chair

- **Virginia Transportation Research Council**
 - Contact via research advisory committees



VIRGINIA ASPHALT ASSOCIATION ANNUAL MEETING

| Garrett Moore, P.E.

April 2019



Pavement

- **Planned paving cost CY19: ~ \$425M**
- **Planned advertisement CY20: \$400 - \$410M**
 - **Planned advertisement only includes work in the Maintenance and Operations Program.**
 - **Work performed with other programs include local maintenance payments and other local funds received such as Revenue Sharing, Unpaved Roads.**
 - **To create a long-term sustainable program, VDOT is reviewing investment strategies and performance measures to change the approach to the program.**



Improvements in Quality

Significant Specification Changes: Materials

- **SS211: 50 Gyration mix designs for IM & BM**
 - Now, all Superpave mixes use 50 gyration mix designs
 - Adds intermediate & base mixes. (Surface mixes previously revised).
 - Includes volumetric changes as well:

| | Design Air Voids | VFA (%) Min. | VMA (%) Min. | FA Ratio |
|-------------------|------------------|----------------|--------------|-----------------|
| IM-19.0A/D | 4.0% | 64 - 83 | 14.0 | 0.6- 1.3 |
| IM-19.0E | 3.5% | 64 - 83 | 14.0 | 0.6- 1.3 |
| BM-25.0 | 2.5% | 67 - 92 | 13.0 | 0.6-1.3 |

Significant Specification Changes: Materials

- **SP315: Method A Density Bonus**

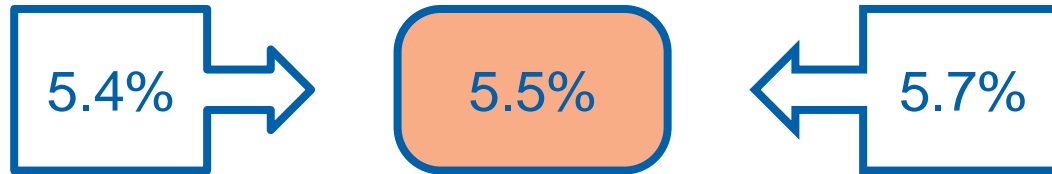
- Primary and Secondary routes over 2,000 ADT with 20+ ft. width
- Pay adjustment Table III-4A for Core (III-4B for Nuclear Gauge)

| % TMD | % of Payment |
|---|------------------|
| Greater than 96.5 | 95 |
| 92.2 ¹ /92.5 ² – 96.5 | 100 |
| 90.0 – 92.1 ¹ /92.4 ² | 95 90 |
| 88.0 – 89.9 | 90 80 |
| Less than 88.0 | 75 |

Intended to reduce field density(s) less than 92%

Significant Specification Changes: Materials

- **SP211: AC Variability Bonus**
 - AC Standard Deviation 0.0 – 0.15 (*no change*)
 - No Adjustments on Gradation (Table II-16) (*no change*)
- **Average Production AC (new, additional requirement for bonus):**
 - No less than 0.1% below the mix design AC% AND
 - No more than 0.2% above the mix design AC%



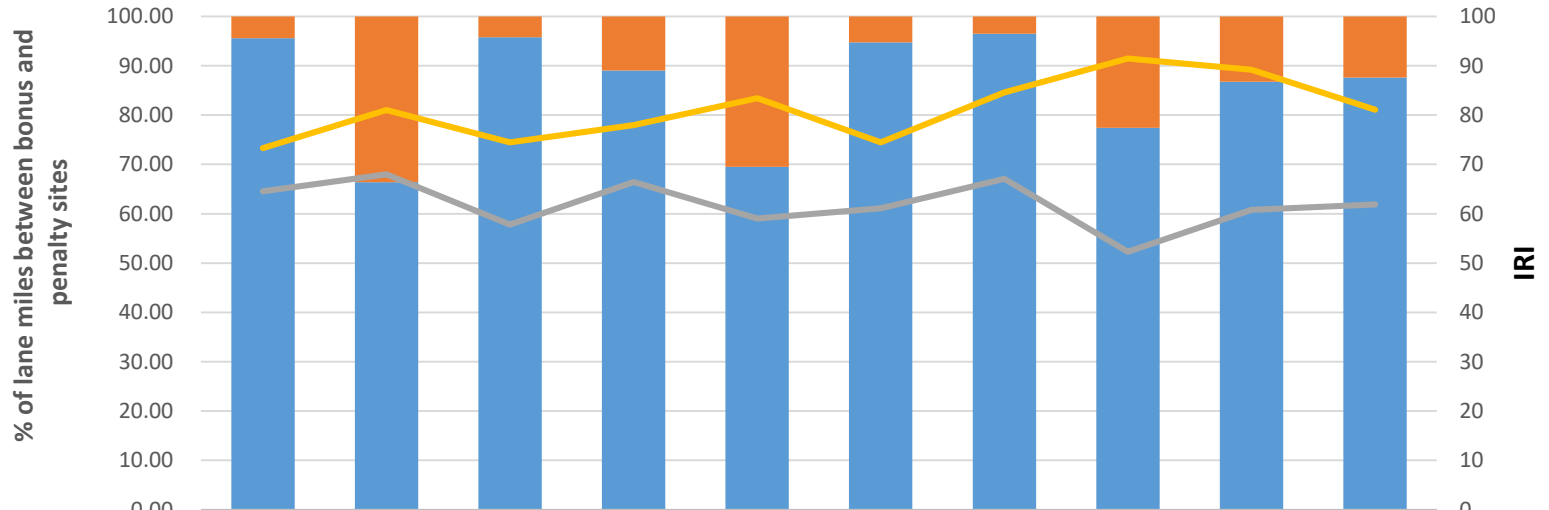


Significant Specification Changes: Materials

- **SS310: Referee System for Tack**
 - Previously, when there was concern about bond quality and the referee system was invoked: a *10% Penalty* was applied if bond strength testing failed to meet specified minimums.
- **Change: now the requirement is for Remove & Replace if bond strengths fail.**

Incentive Areas: Ride, Field Density, Asphalt Content

% Lane miles and average IRI for ride spec projects in 2018



| | Bristol | Salem | Lynchburg | Richmond | Hampton Roads | Fredericksburg | Culpeper | Staunton | Northern VA | Statewide Lane Miles Paved with Bonus |
|---|---------|-------|-----------|----------|---------------|----------------|----------|----------|-------------|---------------------------------------|
| ■ % Penalty lane mile | 4.43 | 33.64 | 4.19 | 10.96 | 30.46 | 5.28 | 3.50 | 22.58 | 13.21 | 12.39 |
| ■ % Bonus lane mile | 95.57 | 66.36 | 95.81 | 89.04 | 69.54 | 94.72 | 96.50 | 77.42 | 86.79 | 87.61 |
| — Avg. IRI on bonus sites | 65 | 68 | 58 | 66 | 59 | 61 | 67 | 52 | 61 | 62 |
| — Avg. IRI on penalty sites | 73 | 81 | 75 | 78 | 83 | 75 | 85 | 91 | 89 | 81 |

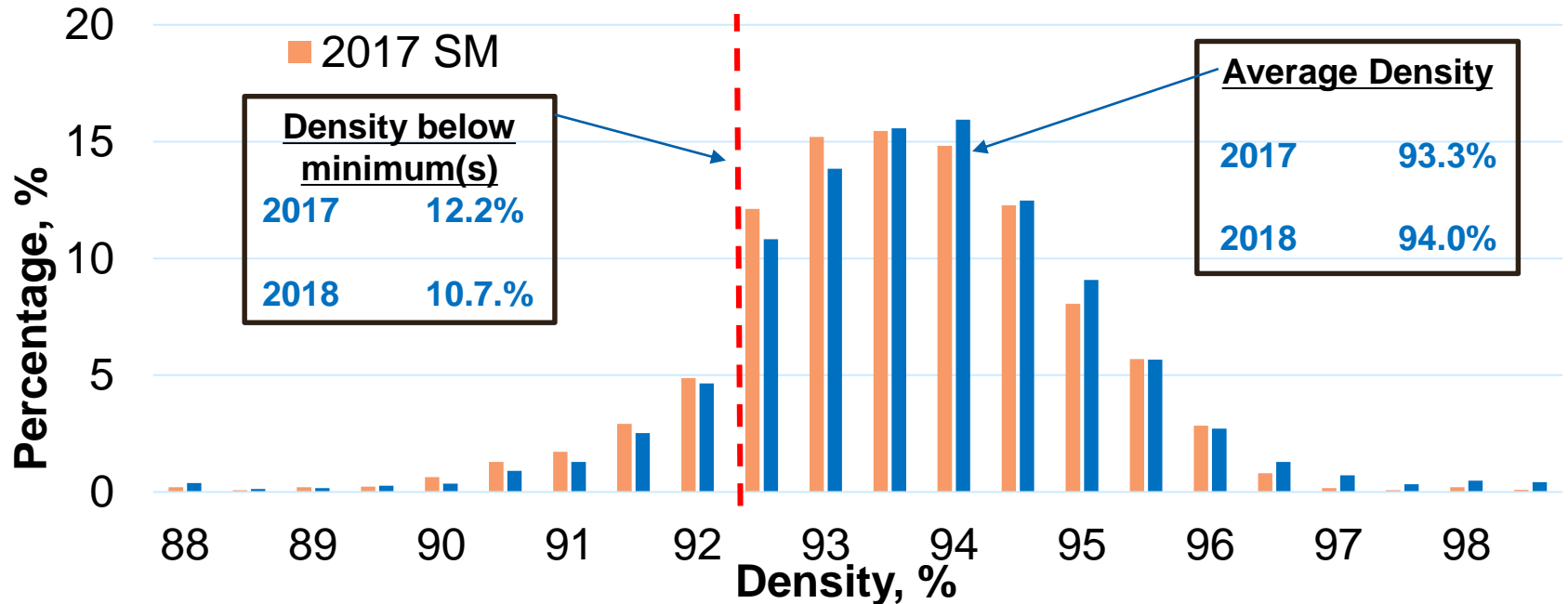
Incentive Areas: Ride, Field Density, Asphalt Content

- **Density improvements - 2016 to present**
- **Created “Method A” for in-place density acceptance**
 - Piloted on limited projects in 2016, fully implemented in 2017
 - Minimum of 5,000 vpd and 20’ wide through 2018
 - Minimum traffic of 2,000 vpd will be used for 2019
 - Density improvements continue, but need to reduce density(s) < 92%



Incentive Areas: Ride, Field Density, Asphalt Content

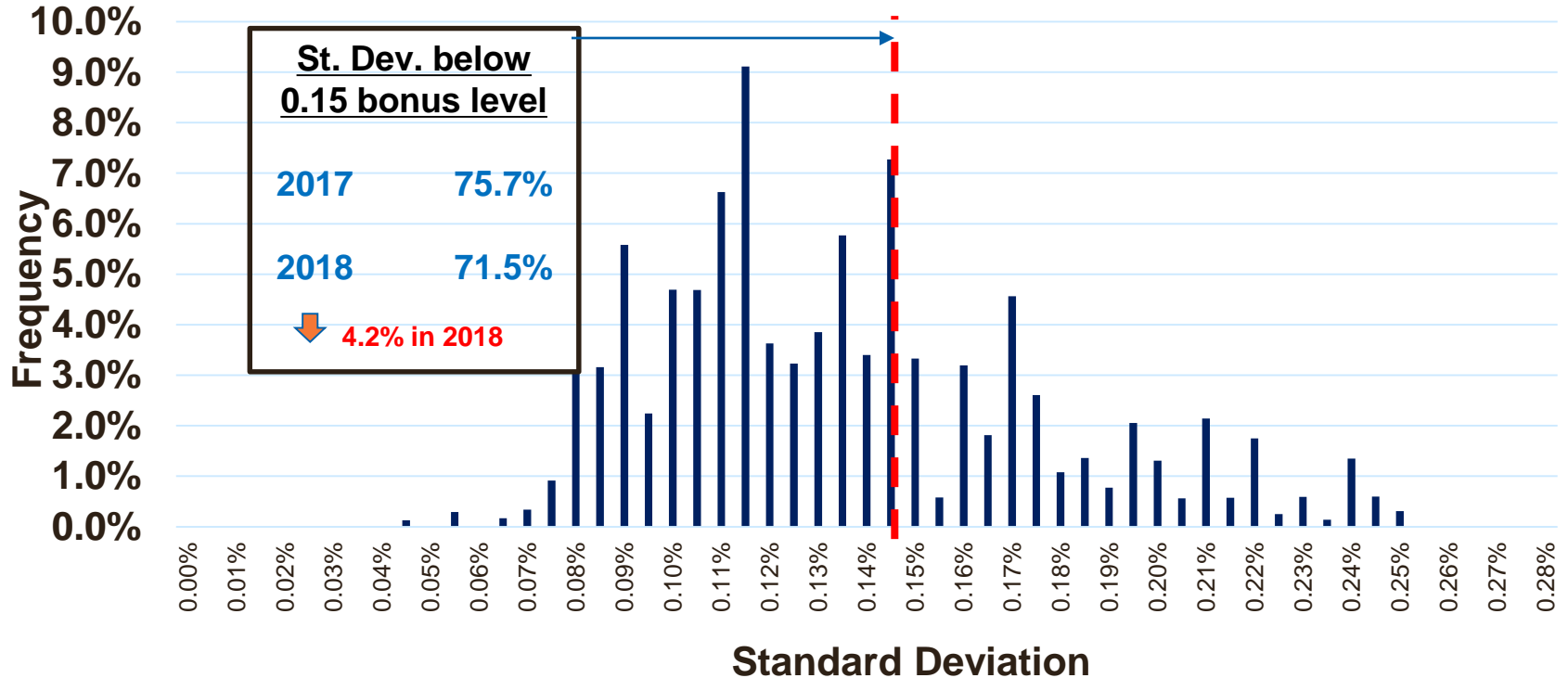
- Density Comparison: 2017 vs 2018 Production (SM)



“Based on field data, a one-percent decrease in air voids would extend the service life by 10 percent, conservatively.” (NCAT Report 17-05)

Incentive Areas: Ride, Field Density, Asphalt Content

- 2018 AC Standard Deviation Distribution by PM Project



Incentive Areas: Ride, Field Density, Asphalt Content

- **%AC Comparison: Surface Mix by Contractors Data**

| Mix Type | STATEWIDE PRODUCTION (%AC) | | |
|---------------|----------------------------|------|------|
| | 2016 | 2017 | 2018 |
| SM-12.5A | 5.50 | 5.55 | 5.59 |
| SM-12.5D | 5.61 | 5.62 | 5.77 |
| SM-12.5E | 5.53 | 5.63 | 5.63 |
| SM-9.5A | 5.66 | 5.62 | 5.63 |
| SM-9.5D | 5.73 | 5.63 | 5.72 |
| Grand Average | 5.63 | 5.61 | 5.66 |

- **Average AC contents are remaining consistent over time**

Incentive Areas: Ride, Field Density, Asphalt Content

- **High RAP Pilot – 2019**
- **Surface Mixes where:**
 - RAP content $\geq 40\%$
 - Performance testing protocol will be deployed – using balanced mix design concepts for cracking, rutting, & durability.
- **Performance of the pilot sections must provide noted improvement(s)**
 - “As good, or better” is not established simply from *today’s* benchmarking.



Incentives Per District and Statewide

| District | Contract Paid \$ | AC Standard Deviation \$ | %ASCD | AC Field Density \$ | %ASCB | Ride \$ | %Ride |
|----------------|-------------------|--------------------------|-------|---------------------|-------|-----------------|-------|
| Bristol | \$ 44,993,511.75 | \$ 1,661,989.61 | 3.7% | \$ 679,832.42 | 1.5% | \$ 416,034.15 | 0.9% |
| Salem | \$ 55,843,952.54 | \$ 380,360.41 | 0.7% | \$ 291,785.25 | 0.5% | \$ 34,406.80 | 0.1% |
| Lynchburg | \$ 34,836,424.98 | \$ 339,066.31 | 1.0% | \$ 234,901.59 | 0.7% | \$ 647,880.06 | 1.9% |
| Richmond | \$ 60,295,718.06 | \$ 727,257.43 | 1.2% | \$ 506,917.41 | 0.8% | \$ 553,588.42 | 0.9% |
| Hampton Roads | \$ 18,477,383.33 | \$ 145,049.97 | 0.8% | \$ 118,977.15 | 0.6% | \$ 28,350.64 | 0.2% |
| Fredericksburg | \$ 28,510,674.65 | \$ 582,262.23 | 2.0% | \$ 180,938.41 | 0.6% | \$ 434,390.40 | 1.5% |
| Culpeper | \$ 28,995,195.46 | \$ 453,136.08 | 1.6% | \$ 356,155.59 | 1.2% | \$ 521,743.35 | 1.8% |
| Staunton | \$ 44,286,014.30 | \$ 388,025.46 | 0.9% | \$ 331,938.38 | 0.7% | \$ 744,549.15 | 1.7% |
| NOVA | \$ 105,189,980.55 | \$ 1,531,050.54 | 1.5% | \$ 406,339.29 | 0.4% | \$ 230,167.62 | 0.2% |
| Statewide | \$ 421,428,855.62 | \$ 6,208,198.04 | 1.5% | \$ 3,107,785.49 | 0.7% | \$ 3,611,110.59 | 0.9% |



Questions?

