

# Percent ~~Within Tolerance~~ *Limits* Acceptance of Asphalt Pavements

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# Quality

Happy Coach



## Continuation of the Goal of Increased Quality

- Target: Drive product consistency focused on job mix formula (JMF) (50% lot pay factor)
- Tighter adherence to field density spec. requirements (50% lot pay factor)

# Current Status

- **Two (2) methods in use:**

- 1. PWT-LTS (Laboratory Testing Section)**

- Acceptance at LTS
- Gmm Verification included on Federally Funded and NHS Projects

- 2. PWT-HOLA (Hands On Local Acceptance)**

- Department Acceptance, Contractor Lab
- Department Option to Witness Only
- Gmm Verification included on Federally Funded and NHS Projects.(Conducted at Local Lab)

# Where can PWL be applied?

- Applicable to all bituminous paving items of Sections 309, 311, 316, 409, 410, and 411
- NOT applicable to:
  - Shoulders falling under Section 650 Items
  - Stone Matrix Asphalt (SMA)
  - Crumb Rubber Modified Asphalt Binder
  - Gap-Graded Asphalt Rubber Mixtures,
  - 6.3mm Thin Asphalt Overlay Courses
  - 4.75mm Asphalt Mixtures
  - Asphalt Warranty Pavements

# 2018 Construction Season

District	Total Projects Advert.	Advertised LTS Projects	Advertised HOLA Projects	Projects Let	Projects with Acceptance Test Results
1-0	32	32	0	32	23
2-0	13	10	3	13	14
3-0	22	18	4	22	20
4-0	11	11	0	11	9
5-0	37	32	5	37	41
6-0	18	12	6	18	26
8-0	55	55	0	55	33
9-0	44	23	21	44	27
10-0	26	26	0	26	22
11-0	20	20	0	20	21
12-0	8	7	1	8	17
<b>Total</b>	<b>286</b>	<b>246</b>	<b>40</b>	<b>286</b>	<b>253</b>
		86%	14%		

# 2018 Construction Season

(as of January 18, 2019)

	Switched from:		Remained As Bid
	LTS to HOLA	HOLA to LTS	
<b>All Districts</b>	<b>21</b>	<b>6</b>	<b>226</b>
<b>1-0</b>	<b>10</b>	<b>0</b>	<b>13</b>
<b>2-0</b>	<b>0</b>	<b>2</b>	<b>12</b>
<b>3-0</b>	<b>1</b>	<b>1</b>	<b>18</b>
<b>4-0</b>	<b>0</b>	<b>0</b>	<b>9</b>
<b>5-0</b>	<b>2</b>	<b>0</b>	<b>39</b>
<b>6-0</b>	<b>0</b>	<b>1</b>	<b>25</b>
<b>8-0</b>	<b>0</b>	<b>0</b>	<b>33</b>
<b>9-0</b>	<b>3</b>	<b>2</b>	<b>22</b>
<b>10-0</b>	<b>1</b>	<b>0</b>	<b>21</b>
<b>11-0</b>	<b>4</b>	<b>0</b>	<b>17</b>
<b>12-0</b>	<b>0</b>	<b>0</b>	<b>17</b>

# Summary of PWL Quantity Paid

(As of December 12, 2018)

	<b>Tons *</b>	<b>%</b>	<b>LOTS</b>	<b>%</b>
<b>Total</b>	<b>3,791,048.80</b>		<b>1545</b>	
<b>PWT-LTS</b>	<b>2,480,624.39</b>	<b>65.4%</b>	<b>1058</b>	<b>68.5%</b>
<b>PWT-HOLA</b>	<b>1,310,424.42</b>	<b>34.6%</b>	<b>487</b>	<b>31.5%</b>

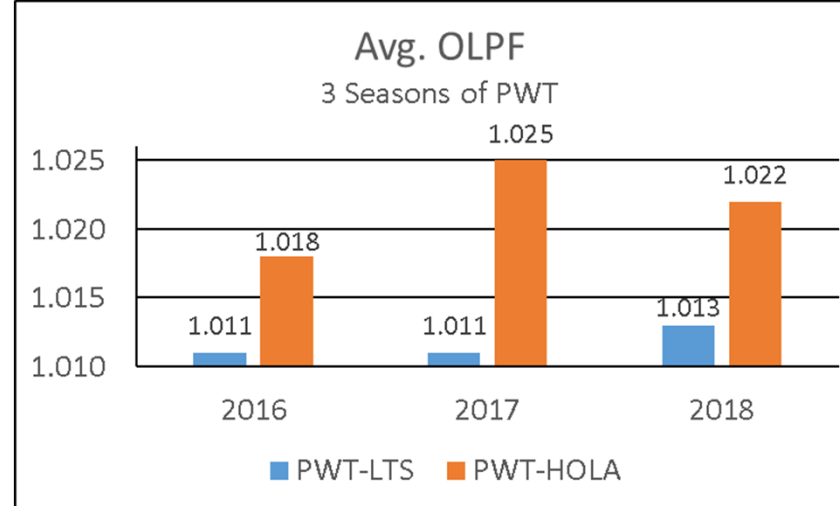
\* Represents quantity paid in ECMS for PWT applicable items placed in 2018

# Summary of PWL Results

(as of January 18, 2019)

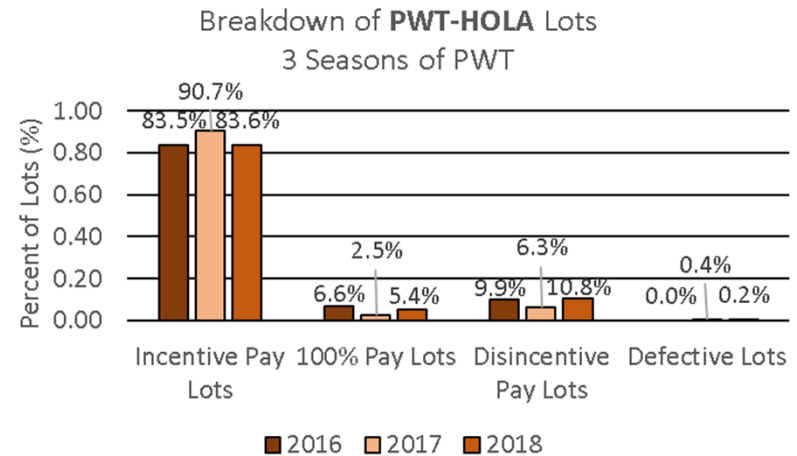
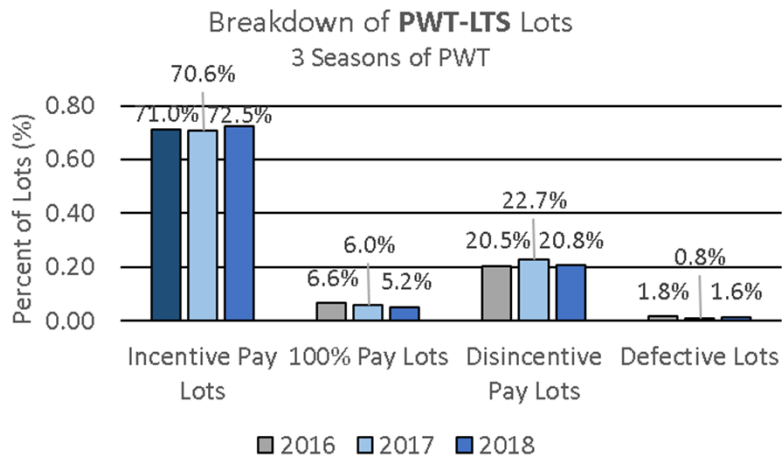
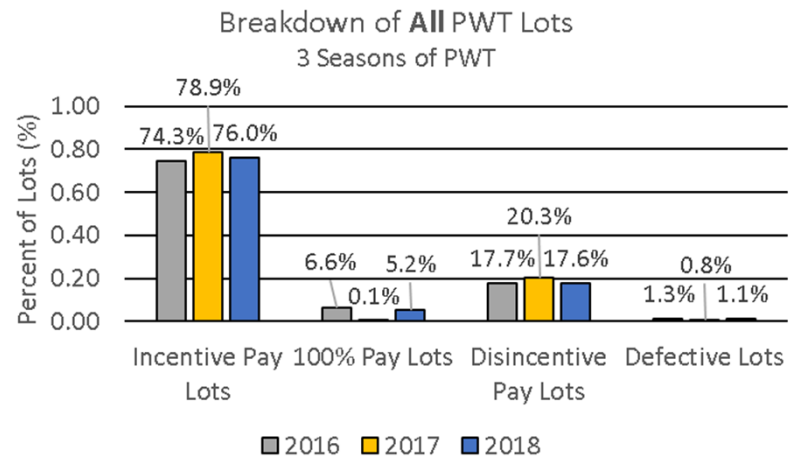
Overall Lot Payment Averages						
	Lots	Average Lot Payment	Lots	Average Lot Payment (max. 1.04)	Lots	Average Lot Payment (max. 1.02)
<b>Total</b>	<b>1583</b>	<b>1.02</b>	<b>1247</b>	<b>1.02</b>	<b>336</b>	<b>1.00</b>
<b>PWT-HOLA</b>	<b>499</b>	<b>1.02</b>	<b>414</b>	<b>1.02</b>	<b>85</b>	<b>1.01</b>
<b>PWT-LTS</b>	<b>1084</b>	<b>1.01</b>	<b>833</b>	<b>1.02</b>	<b>251</b>	<b>1.00</b>

How Are We Doing?





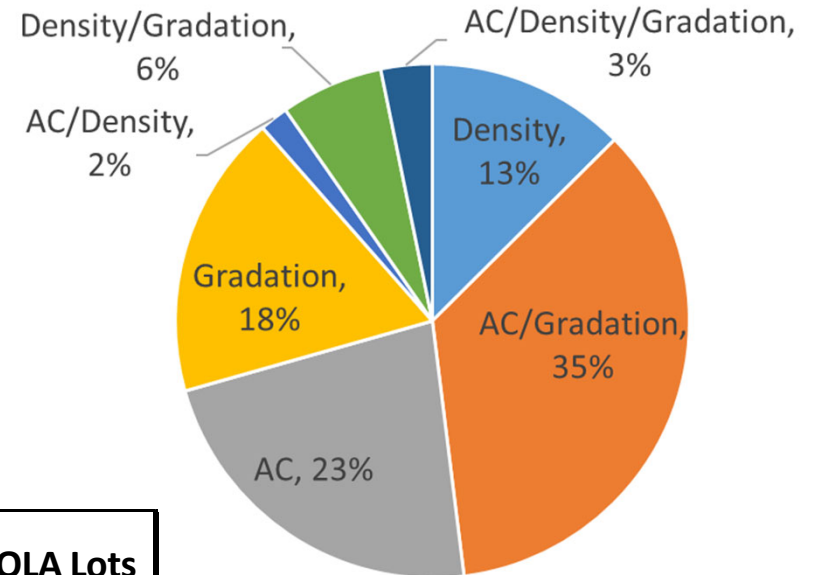
# Comparison of Lot Payments (as of January 18, 2019)



# 2018 Reduced Pay Lots

(as of January 18, 2019)

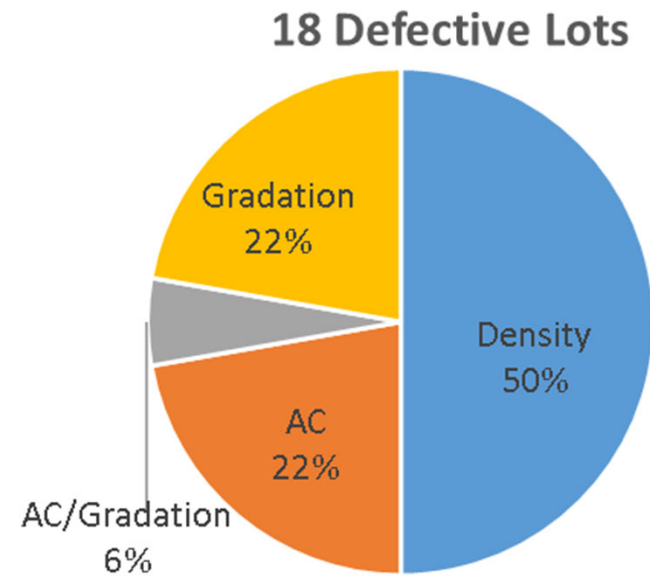
## 279 Disincentive Pay Lots



	# Lots	# LTS Lots	# HOLA Lots
Density	35	27	8
AC/Gradation	99	85	14
AC	63	50	13
Gradation	50	39	11
AC/Density	5	3	2
Density/Gradation	18	14	4
AC/Density/Gradation	9	7	2

# 2018 Defective Lots

(as of January 18, 2019)



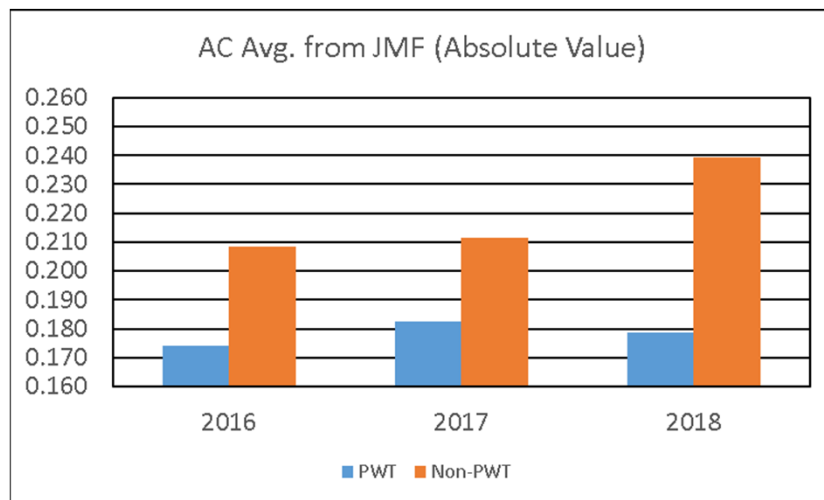
	# Lots	# LTS Lots	# HOLA Lots
Density	9	8	1
AC	4	4	0
AC/Gradation	1	1	0
Gradation	4	4	0

# Summary of Mixture Pay Factors

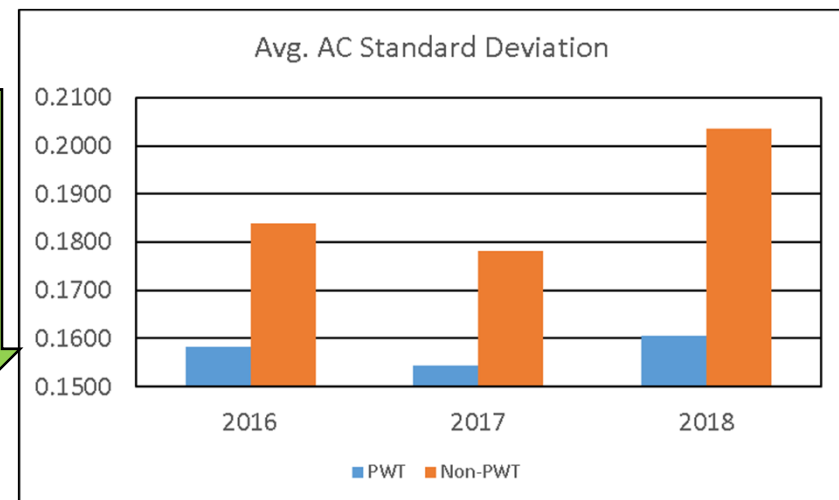
(as of January 18, 2019)

## Asphalt Content (AC) Pay Factor Summary (30% of Overall Lot Pay Factor)

	Overall	Ignition Oven	Extraction
<b>Total</b>	100.90	100.98	99.80
<b>PWT-HOLA</b>	101.90	101.83	103.58
<b>PWT-LTS</b>	100.42	100.55	98.97



Good

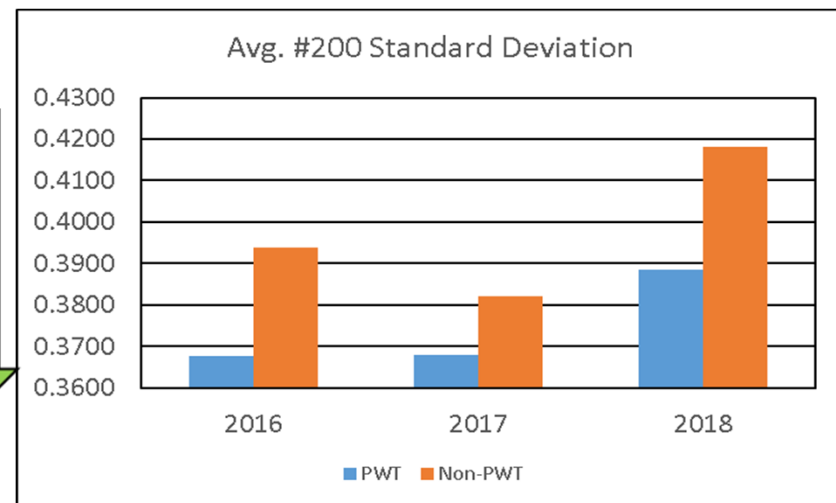
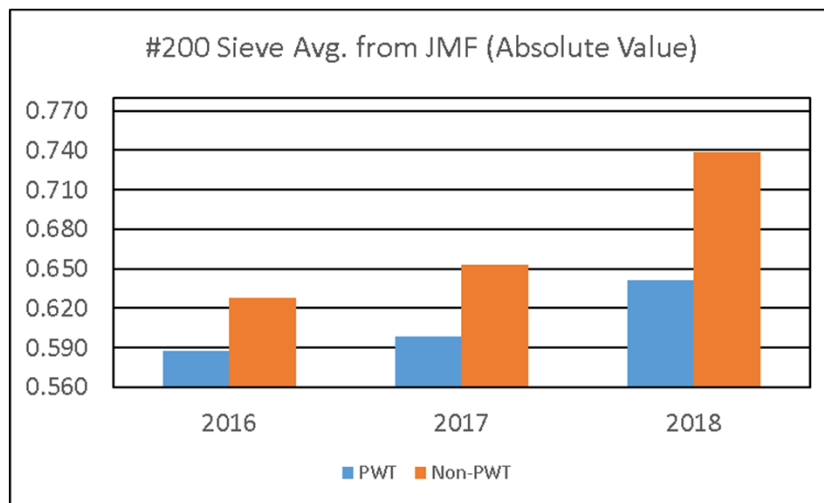


# Summary of Mixture Pay Factors

(as of January 18, 2019)

## #200 Sieve Pay Factor Summary (10% of Overall Lot Pay Factor)

<b>Total</b>	100.61
<b>PWT-HOLA</b>	100.82
<b>PWT-LTS</b>	100.51

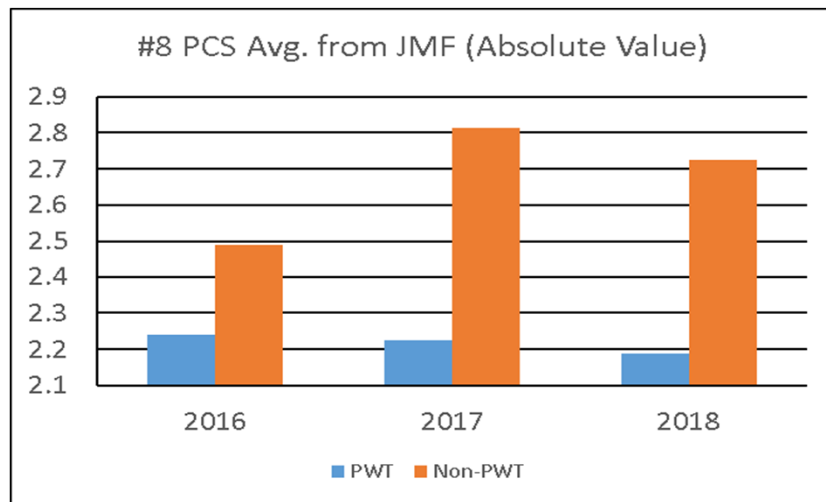


# Summary of Mixture Pay Factors

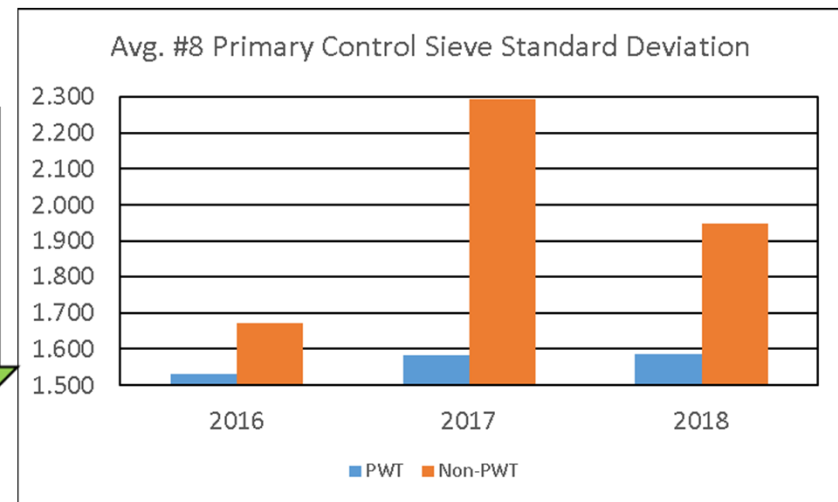
(as of January 18, 2019)

## Primary Control Sieve PCS) Pay Factor Summary (10% of Overall Lot Pay Factor)

	#8 Sieve	#4 Sieve
<b>Total</b>	99.36	101.18
<b>PWT-HOLA</b>	100.95	102.53
<b>PWT-LTS</b>	98.67	100.50



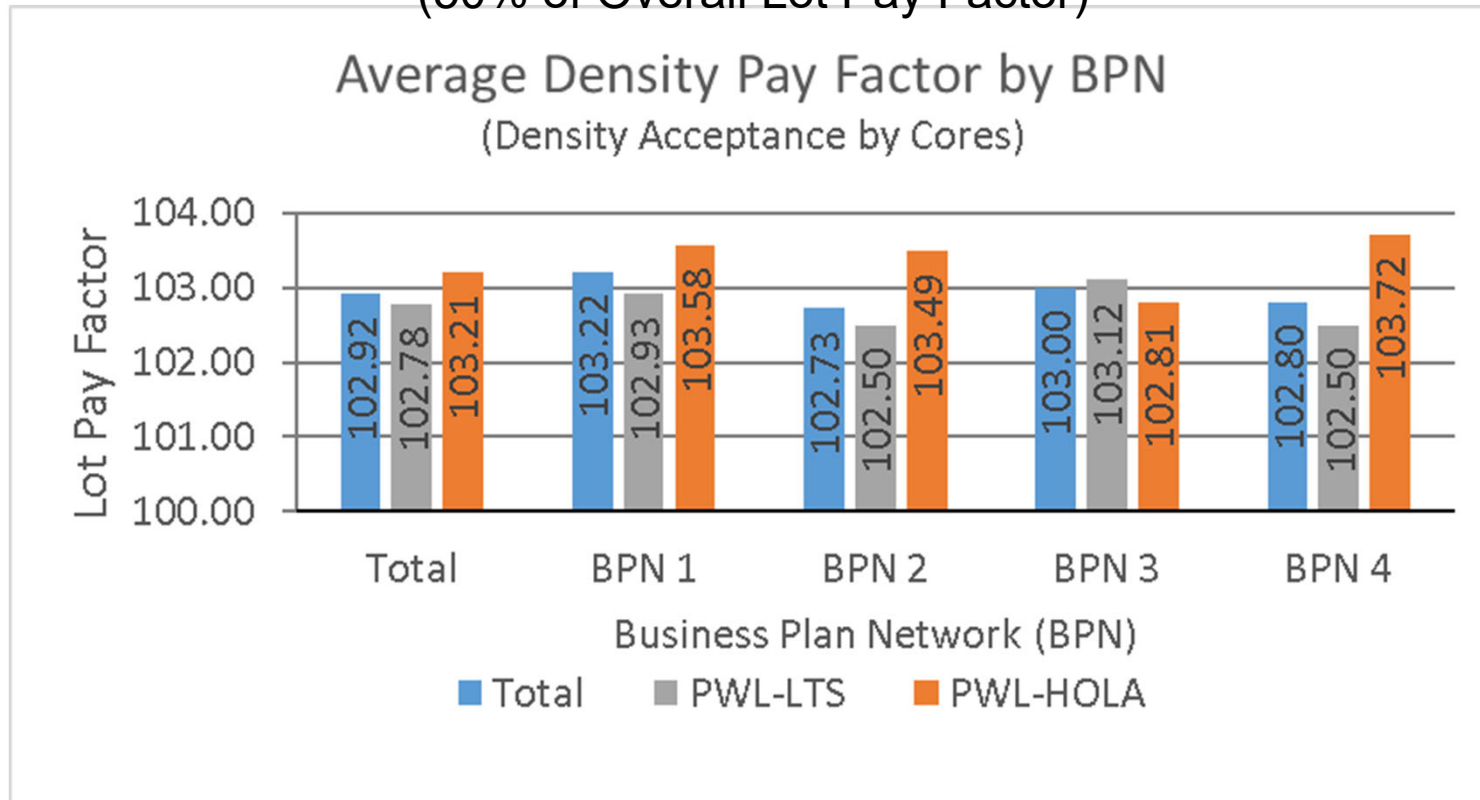
Good



# Average Density Pay Factor by BPN

(as of January 18, 2019)

(50% of Overall Lot Pay Factor)



**BPN 1 – Interstates**  
**BPN 2 – NHS**

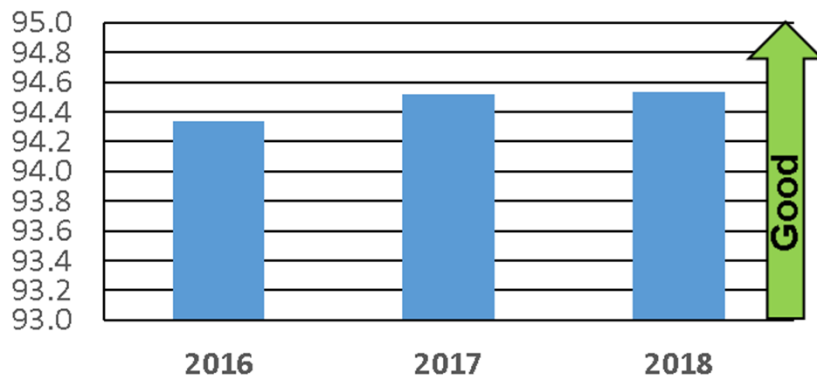
**BPN 3 – State (ADT  $\geq$  2000)**  
**BPN 4 – State (ADT < 2000)**

# Density Averages by Mix & BPN

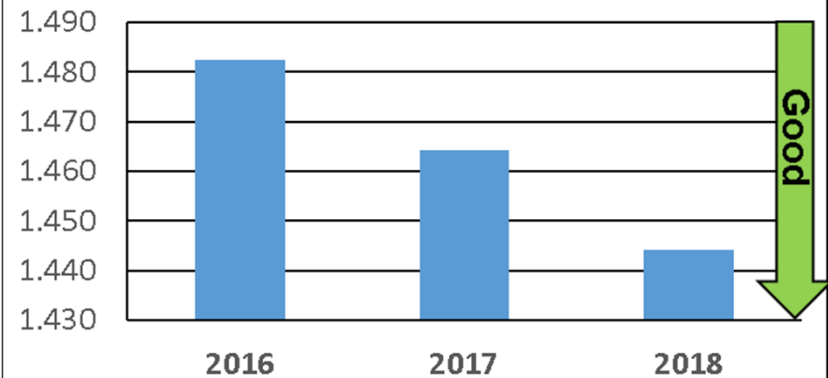
(as of January 18, 2019)

Mix	Average Density	BPN 1	BPN 2	BPN 3	BPN 4
All	94.62	94.67	94.61	94.65	94.44
9.5mm	94.53	94.56	94.37	94.62	94.42
12.5mm	94.42	94.53	94.27	94.46	94.84
19mm	94.75	94.75	94.73	94.86	94.74
25mm	94.92	94.69	94.93	95.17	92.78

Avg. Density - 9.5 mm  
3 Seasons of PWT



Avg. Density Std. Dev. - 9.5 mm  
3 Seasons of PWT





# Impact of Incentive Structure

(as of January 18, 2019)

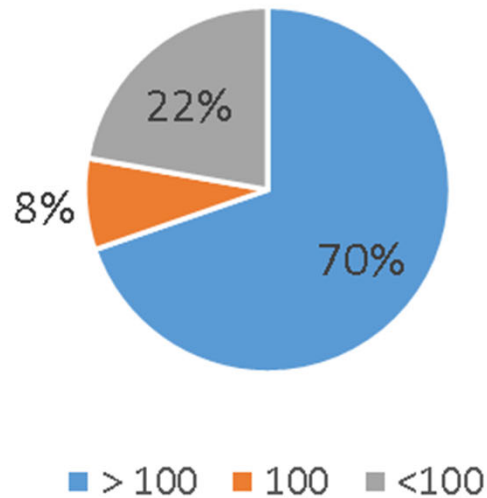
District	Incentives	Disincentives	$\Delta$
1	\$295,072.50	-\$69,833.98	\$225,238.52
2	\$313,415.10	-\$165,253.09	\$148,162.01
3	\$242,750.96	-\$26,358.94	\$216,392.02
4	\$89,593.10	-\$97,746.08	-\$8,152.98
5	\$224,924.51	-\$76,845.55	\$148,078.96
6	\$533,030.91	-\$106,404.67	\$426,626.24
8	\$568,082.42	-\$351,872.68	\$216,209.74
9	\$285,883.54	-\$61,368.68	\$224,514.86
10	\$360,107.66	-\$37,555.09	\$322,552.57
11	\$349,716.26	-\$101,971.37	\$247,744.89
12	\$329,575.28	-\$53,488.86	\$276,086.42
Total	\$3,592,152.24	-\$1,148,698.99	\$2,443,453.25

# 2018 Industry Summary

(As of January 18, 2019)

	No.	PWT Experience		
		PWT-HOLA	PWT-LTS	Both
Prime Contractors	56	6	31	19
Suppliers (Plants)	99	13	58	28
Paving Contractors	45	7	21	17

Avg. OLPF  
(99 Suppliers)



# 2018 After Action Review Proposed Changes to PWT

- CT 1
- Standard Special Provisions
  - Changing PWT to PWL
  - Proposed change to Dispute Resolution
  - Contractor Elected Terminated Lots Maximum Pay Factor
  - Proposed revision of Density Limits for Partial Lots
  - Proposed revision of Density Limits for Calculating PWL
    - Standard 9.5 mm & 12.5 mm – Lower Limit from 91.5 to 92.0
    - RPS and Standard 9.5 mm & 12.5 mm – Upper Limit from 98.0 to 98.5
- Use Guidelines/Field Users Guide
  - Changing PWT to PWL
- eCAMMS
  - Multiple Ignition Oven Calibration Factors (PWT-HOLA)

# 2019 Construction Season

- PWL on **ALL Applicable** Paving Projects
- PWT becomes PWL
- Revised SSPs
- Revised Use Guidelines
- Revised Field Users Guide

# Thank You!



U.S. Department of Transportation  
**Federal Highway Administration**



**NORTHEAST CENTER OF EXCELLENCE  
FOR PAVEMENT TECHNOLOGY**



# Be a Part of the TEAM

- Please feel free to email your comments, questions and experiences.

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# Questions?

