



# Percent **W**ithin **L**imits

## Acceptance of Asphalt Pavements

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# Quality

## 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)



# What's different with PWL spec?

- **Incentive/Disincentive** structure (maximum 4% incentive)
- Primary Control Sieve (PCS) part of payment
- Modifies “goal posts” approach for 100% payment (good or no good)

# Payment Equation Changes

- **Section 409** specification (50% mix, 50% density)
  - 25% asphalt content
  - 25% #200 sieve
  - 50% field density
- **PWL (Section 413)** specification (50% mix, 50% density)
  - 30% asphalt content
  - 10% #200 sieve
  - 10% primary control sieve
  - 50% field density

# Current Status

## Two (2) methods in use:

### 1. PWL-LTS (Laboratory Testing Section)

- Acceptance at LTS
- Gmm Verification included on Federally Funded and NHS Projects
- **NEW Section 413**

### 2. PWL-HOLA (Hands On Local Acceptance)

- Department Acceptance, Contractor Selected Lab
- Department Option to Witness Only (**No Federal Funds and Not on NHS**)
- Gmm Verification included on Federally Funded and NHS Projects. (Conducted at Local Lab)

# PWL-LTS

- **Very similar** to **Section 409 process**
- Allows a **contractor option** to **expedite sample delivery** to Harrisburg
  - Inspection staff secures samples
  - Secure samples given to contractor
  - Contractor delivers to LTS at their cost
  - LTS verifies security prior to testing
  - 2-3 Standard Work Day Goal at LTS

# Expedited Shipping (Contractor)

- For expedited shipping contractor must:
  - Indicate shipping entity (themselves or a third party)
  - Outline process in QC plan
  - Provide containers, cushioning and all packaging materials to Department
  - Third party shipping services must provide the ability to track delivery



# Expedited Shipping (Field Inspector)

- Field inspection responsibilities:
  - Secure containers with Department issued security tape (Supplied by the District)
  - Record the unique number from tape to TR-447
  - Place the TR 447 inside the shipping container
  - Return the secured containers to the contractor for shipping



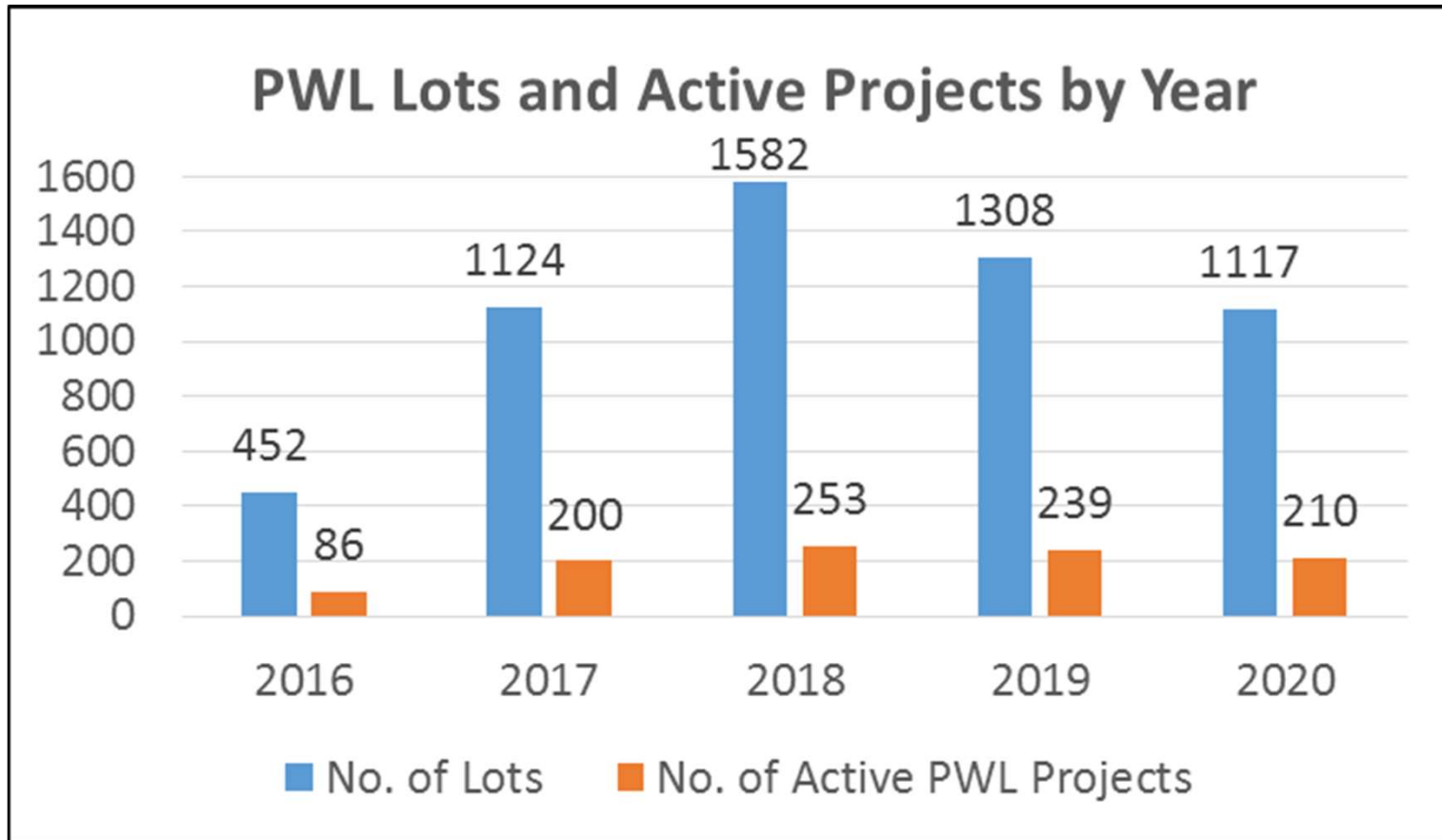


# PWL-HOLA

- HMA/WMA Material **samples collected** as usual
- **Acceptance testing** performed at:
  - Assessed producers lab
  - or another mutually acceptable lab
- **No LTS acceptance testing** (except for dispute resolution situation)



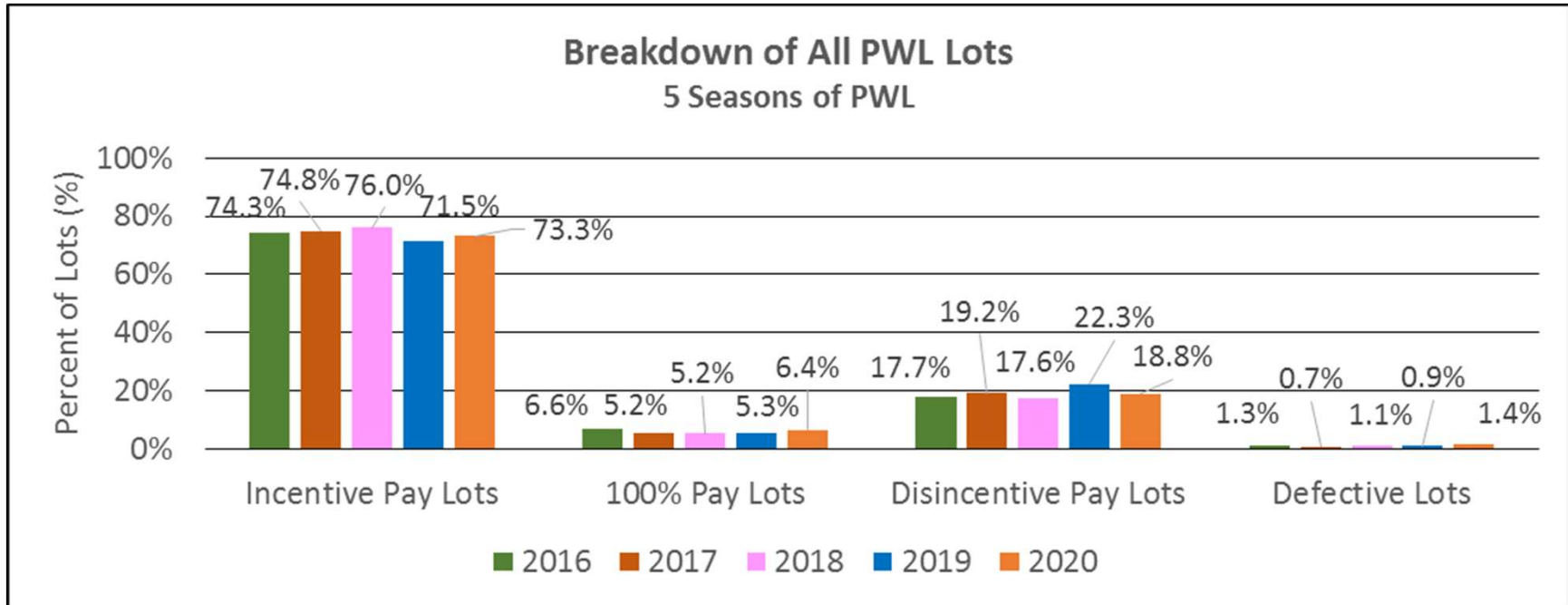
# Implementation and Monitoring 5 Year Summary



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	<b>PWL SUMMARY</b>				
Year	2016	2017	2018	2019	2020
PWL Projects Let	157	281	286	233	229
HOLA Projects	24	48	40	28	11
LTS Projects	133	233	246	205	218
Average Pay Factors (%)					
Asphalt Content	101.27	100.80	100.90	100.42	100.44
Primary Control Sieve	100.25	99.70	100.11	99.57	99.46
#200 Sieve	101.12	100.97	100.61	100.28	101.44
Density (Cores)	102.03	102.60	102.93	102.53	102.58
Avg. Density	94.2	94.4	94.6	94.6	94.4
Avg. Overall Lot Pay Factor (%)	1.01	1.01	1.02	1.01	1.01

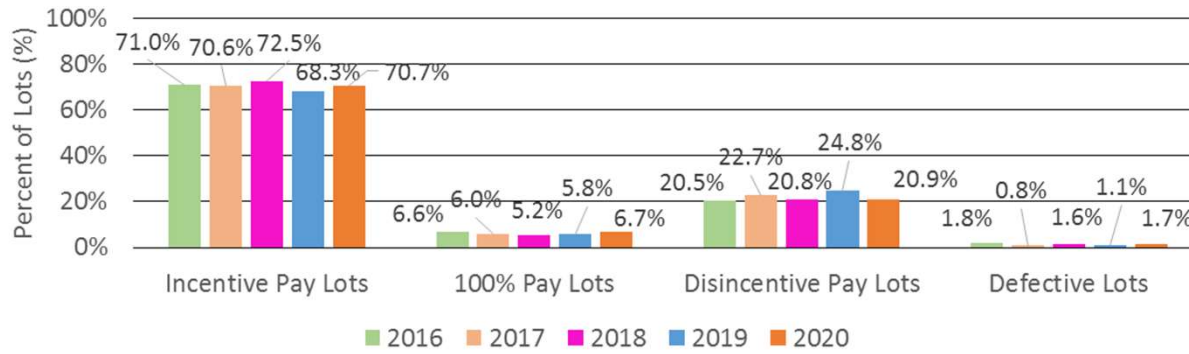
# Implementation and Monitoring 5 Year Summary



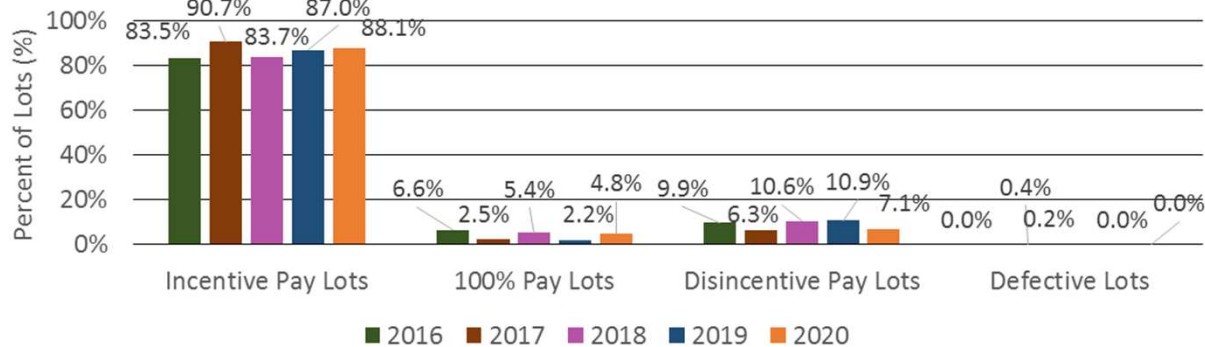
Both LTS and HOLA Lots

# Implementation and Monitoring 5 Year Summary

**Breakdown of PWL-LTS Lots**  
5 Seasons of PWL



**Breakdown of PWL-HOLA Lots**  
5 Seasons of PWL



Year	Lots	
	LTS	HOLA
2016	331	121
2017	887	237
2018	1084	498
2019	1078	230
2020	949	168

# Key Points of PWL

- Does my project have PWL?
- Where can be PWL be applied?
- Terminated Lots (Contractor Elected)
- Sample Setup
- Incentives/Disincentives

# Does my project have PWL?

## Applied to Project as a Standard Special Provision (SSP)

b04001 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF ASPHALT PAVEMENTS WITH PERCENT WITHIN LIMITS AND LTS TESTING (PWL-LTS) **(Includes Gmm Verification)**

b04002 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF ASPHALT PAVEMENTS WITH PERCENT WITHIN LIMITS AND LTS TESTING (PWL-LTS)

b04003 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF PLANT-MIXED ASPHALT PAVEMENT COURSES WITH DEPARTMENT LOCAL ACCEPTANCE, AND PAYMENT BY PERCENT WITHIN LIMITS (PWL-HOLA) **(Includes Gmm Verification)**

b04004 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF PLANT-MIXED ASPHALT PAVEMENT COURSES WITH DEPARTMENT LOCAL ACCEPTANCE, AND PAYMENT BY PERCENT WITHIN LIMITS (PWL-HOLA)

# Where can PWL be applied?

- If Governed by Pub. 408/2016 and earlier with a PWL SSP
  - ✓ Applicable to all asphalt paving items following material acceptance procedures of Sections 309, 311, 316, 409, 410, and 411
- If Governed by Pub. 408/2020
  - ✓ Applicable to all asphalt paving items following material acceptance procedures running through Section 413



# Contractor Terminated Lots

Allows contractor to limit risk when early QC results indicate an issue

- Must stop paving
- Notify Inspector in Charge in Writing
- 95% maximum pay  
(Versions A, B, C and D 90% maximum pay)
- Must R&R if defective by test results

# Sample Setup

Home Sample JMF ESB Maintenance Tools TR-447 Ref #: Sample #: Search

TR-447 SAMPLE SETUP Load New TR-447 Ref # Save Copy Delete Print TR-447

**General**

Material Code/Class: [ ] [ ]

Templates: [ ] Apply Template

TR-447 Ref #: U765432 Show Only My Templates:

Sample Group: [ ] Sample Class: [ ] Aggregate Usage: [ ]

Location Code: [ ] Lot/Batch Number: [ ] Lot/Batch Size: [ ] [ ]

Place Collected: [ ] Terminated Lot:  Partial Lot:  Date Collected: [ ] [ ]

# of Increments: [ ] Related Sample: + Add Related Sample Refresh

Tank #: [ ]

Construction Item #: [ ]

PE/PEQ: [ ]

Evaluations: [ ] Add

Related Sample	Relationship	Delete
No records to display.		

Application # [ ] Refresh Delete

No records to display.

Product Name: [ ]

**CMS/ECMS Contract and WBS**

CMS/ECMS Contract #: [ ] Load CMS/ECMS Contract Reset CMS/ECMS Contract and WBS

Organization Code: [ ] Load WBS

408 Year: [ ] Version: [ ] Section: [ ] Measurement: [ ]

Special Provisions:  PO Number: [ ]

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# Incentives/Disincentives

## INCENTIVES

- Contract Item for Incentives (PDA)
  - Item 0413-9999 Percent Within Limits (PWL) Lot Incentive/Disincentive
  - Item 9000-6174 SUPERPAVE PWT INCENTIVE
    - » Started with Version C of SSPs
- Contract Adjustments entered into ECMS
  - “PWL Adjustment (LTS)” or “PWL Adjustment (HOLA)”
  - Attach eCAMMS Report
  - Versions A & B of SSPs

## DISINCENTIVES

- Contract Adjustments entered into ECMS
  - “PWL Adjustment (LTS)” or “PWL Adjustment (HOLA)”
  - Attach eCAMMS Report
  - ALL Versions of SSPs

# Incentive Example

Lot Size = 2,500 tons

Contract Unit Price (CUP)  
= \$130.00/ton

Lot Payment from eCAMMS  
= 1.03 Bonus Payment

Lot Payment for Contract Item =  
\$325,000.00 (Qty x CUP)

Test Level - Bituminous Gradation Testing (AASHTO T			
Sieve Size	# of Increments	Avg. % Passing	
#200	5	5.3	
#100	5	8	
#50	5	11	
#30	5	16	
#16	5	23	
#8	5	37	
#4	5	58	
3/8"	5	98	
1/2"	5	100	
#200 Sieve Pay Factor	104.00	Bonus PF	
PCS Sieve	#8 Sieve		
PCS Pay Factor	98.50	Reduced PF	
OLPF	103.00		
Lot Payment	1.03	Bonus Payment	

## Incentive Calculation

Lot Payment with Incentive = Lot Payment from eCAMMS x Qty x CUP

Lot Payment with Incentive = 1.03 x 2,500 tons x \$130.00  
= \$334,750.00

Lot Incentive = Lot Payment with Incentive – Lot Payment for Contract Item

Lot Incentive = \$334,750.00 - \$325,000.00

Lot Incentive = \$9,750.00

# Disincentive Example

Lot Size = 2,500 tons

Contract Unit Price (CUP)  
= \$130.00/ton

Lot Payment from eCAMMS  
= 0.83 Reduced Payment

Lot Payment for Contract Item =  
\$325,000.00 (Qty x CUP)

Test Level - Bituminous Gradation Testing (AASHTO T		
Sieve Size	# of Increments	Avg. % Passing
#200	5	5.7
#100	5	9
#50	5	12
#30	5	17
#16	5	24
#8	5	38
#4	5	57
3/8"	5	95
1/2"	5	100
#200 Sieve Pay Factor	104.00	Bonus PF
PCS Sieve	#8 Sieve	
PCS Pay Factor	104.00	Bonus PF
OLPF	83.00	
Lot Payment	0.83	Reduced Payment

## Penalty Calculation

Lot Payment with Disincentive = Lot Payment from eCAMMS x Qty x CUP

Lot Payment with Disincentive = 0.83 x 2,500 tons x \$130.00  
= \$269,750.00

Lot Disincentive = Lot Payment with Disincentive – Lot Payment for Contract Item

Lot Disincentive = \$269,750.00 - \$325,000.00

Lot Disincentive = (-\$55,250.00)

# 2021 Construction Season

- PWL on **ALL Applicable** Paving Projects
- PWL-LTS through use of Section 413 of Pub. 408
- PWL-HOLA through use of Standard Special Provision
  - b04131 Superpave Mixture Design, Standard and RPS Construction of Plant-Mixed Asphalt Courses with Percent Within Limits and Hands-On Local Acceptance (HOLA) Testing (PWL-HOLA)

# Be a Part of the TEAM

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

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# Questions

