



Florida Department of
TRANSPORTATION

Smoothness Specification Update

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Florida Department of Transportation

IRI Smoothness Spec

- Developed by Smoothness Committee
 - FDOT & Contractors
- Pay Adjusted for Smoothness
- Eliminates Laser AND Straightedge
 - Current Ride Number Specs
- Safer
 - Reduces time near traffic straightedging
 - Majority of project tested with laser profiler

IRI Smoothness Spec

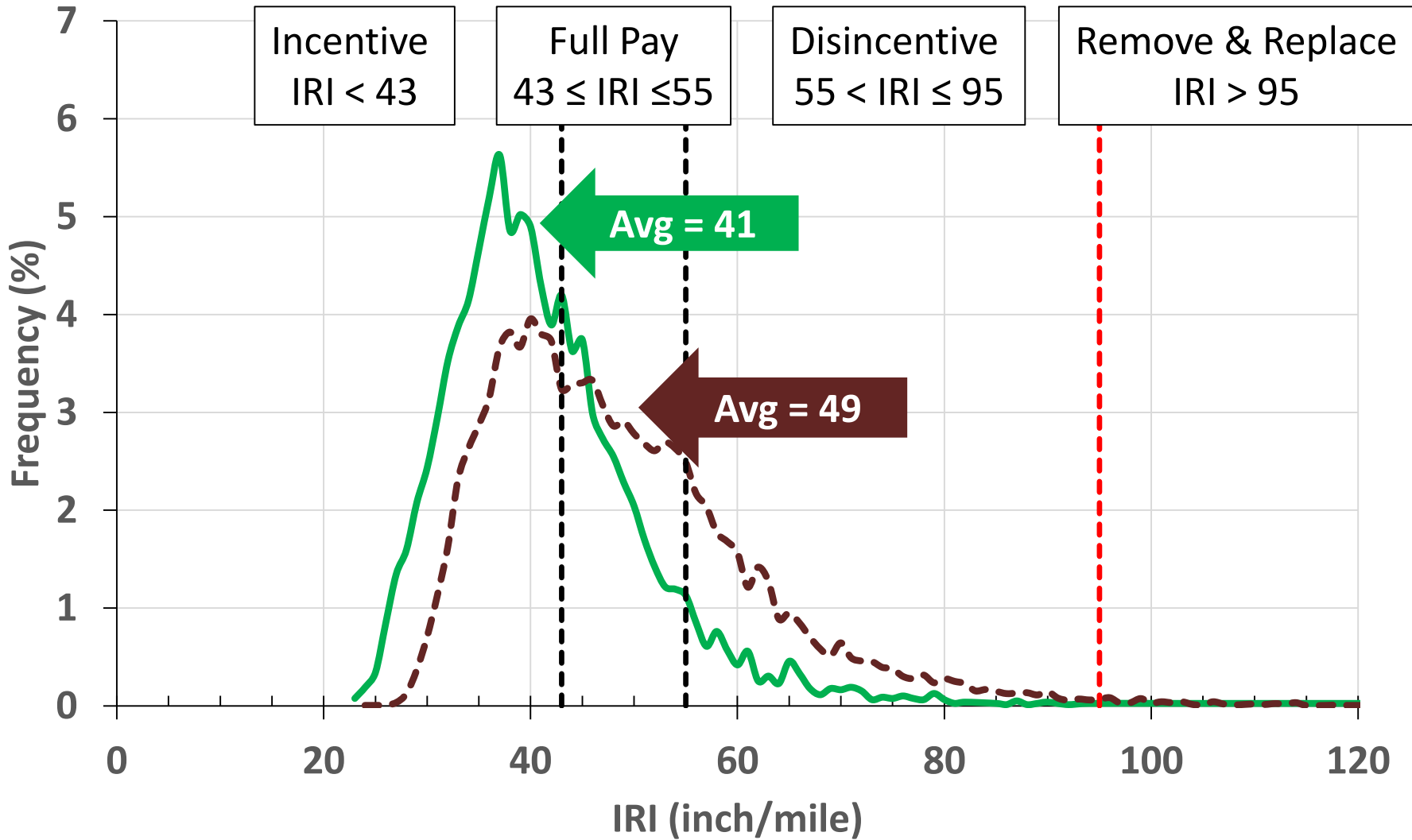
- Less Removal & Replacement
- Helps Eliminate Segregation
 - Best Practices for Smoothness are best practices to eliminate segregation
- Higher Quality, Smoother Pavements
- Smoother Pavements Last Longer

What is IRI?

- International Roughness Index (IRI)
- Measured in inches (vertical) per mile (horizontal)
- Lower is Smoother

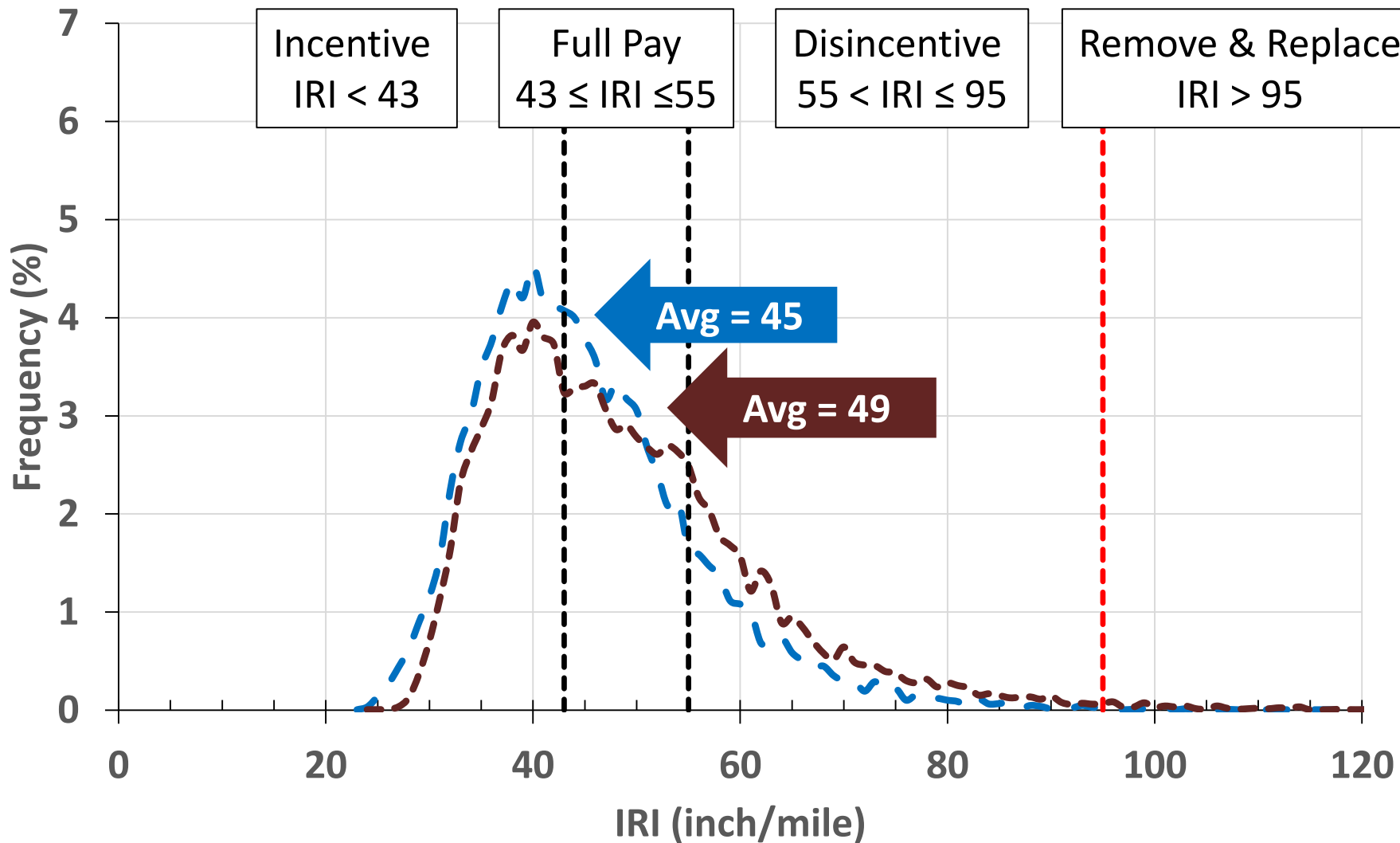
Statewide Smoothness Data – Limited Access Roadways

— Dev330 Pilot Projects - - - 2005-2010



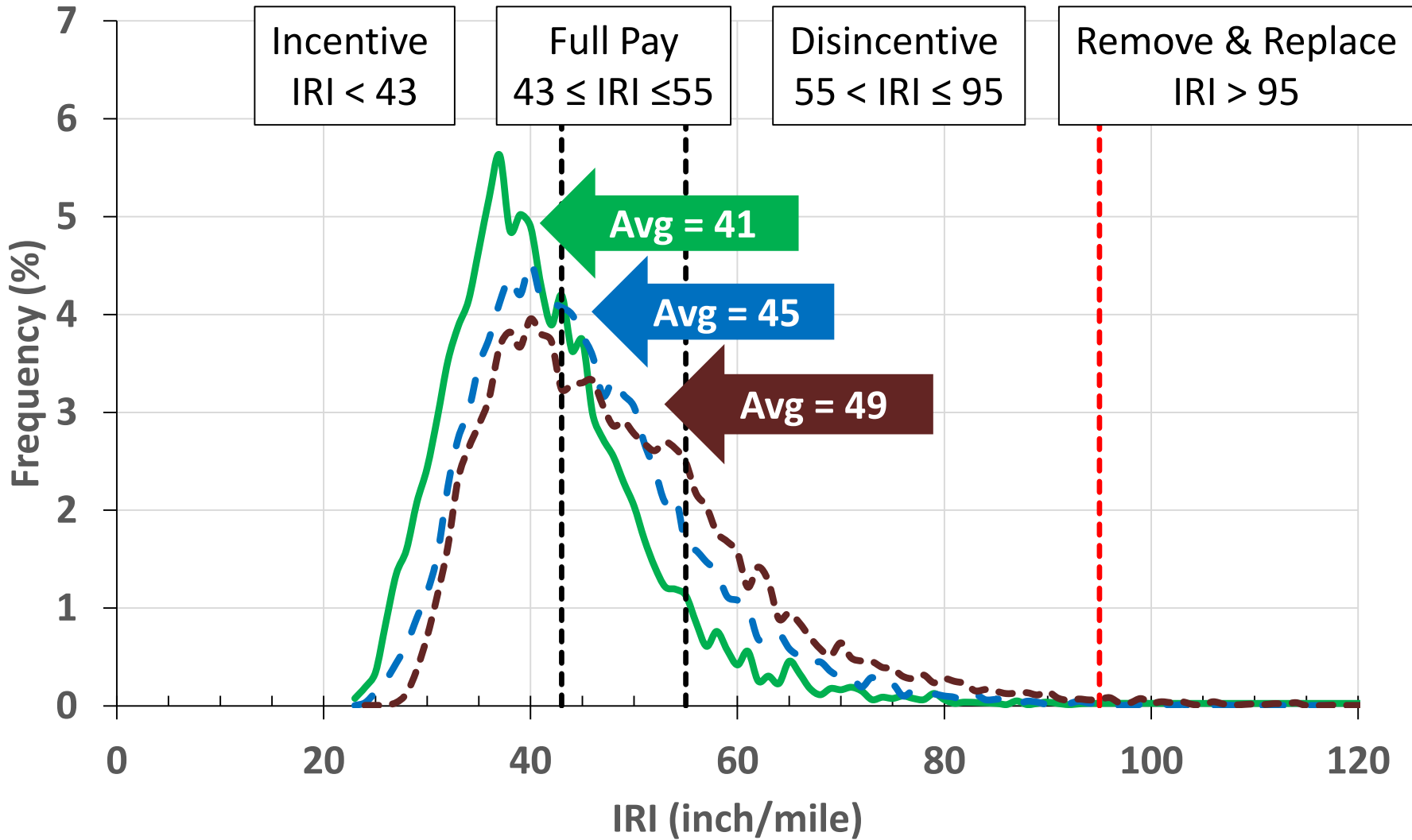
Statewide Smoothness Data – Limited Access Roadways

— 2011 to 2016 - - 2005-2010



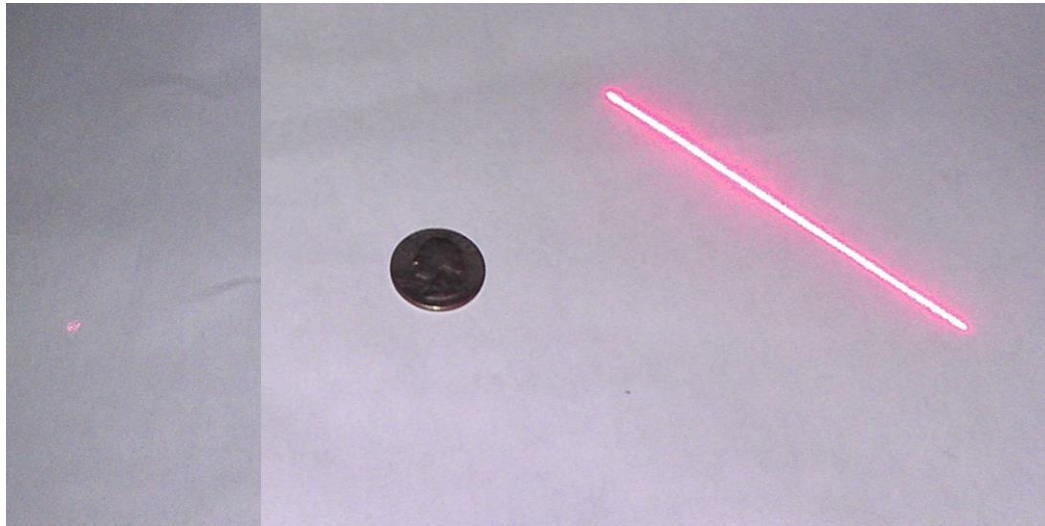
Statewide Smoothness Data – Limited Access Roadways

— Dev330 Pilot Projects - - 2011 to 2016 - - - 2005-2010



Smoothness Spec Progress

- Add to Limited Access Projects
 - By Special Provision
 - Starting July 2018
- Use Line Laser instead of Point Laser




Calculating Incentives/Disincentives

- Lot-based Incentive/Disincentive
- Project-wide Smoothness Incentive

Lot-based Pay Adjustment

- Ride Report provides Lot-based Pay Adjustment



Florida Department of Transportation
State Materials Office
Pavement Materials Section
Laser Smoothness Acceptance Report
IRI

Financial Project	41304325201 41304425201 41304435201	District	1	Date Tested	7/27/2017
Roadway ID	17075, 01075	County	Sarasota	Time Tested	11:58 AM
BMP	0.000, 17.297	State Road No.	93	Operator	Chris Kaps
EMP	10.970, 22.008	Interstate	75	Driver	Chris Kaps
Total Lanes	6	Lanes Tested	R1 - L3	Vehicle	ARA3
Total Miles Tested	92.088	Surface Type	FC5	Units	English
Mix Design	SPM 16-14648A	Mat. Trans. Dev.	Yes	Paving Time	Night
Paving Contractor	Astaldi Construction Corp.			MAC ID Number	1700136338

Summary

Lane	Full and Partial Lots					> 95 CA	Pay			IRI Statistics			
	Total	Inc	Full	Dis	Dis		Total	Inc	Dis	Min	Max	Std	Avg
R2	158	33	114	11	0	\$624.80	\$1,500.80	(\$876.00)	38	67	5.5	47	
R3	158		99	20	0	\$58.20	\$2,651.80	(\$2,593.60)	35	74	7.3	47	
L1	158	82		5	0	\$4,875.00	\$5,480.00	(\$585.00)	36	71	5.6	44	
L2	157	72	79		0	\$2,394.40	\$4,374.40	(\$1,980.00)	34	80	7.0	45	
L3	158	56	91	11		\$2,445.20	\$4,291.20	(\$1,146.00)	34	89	6.7	46	
Total	947	325	559	63	0	\$13,028.20	\$21,062.80	(\$8,034.60)	Average	6.5	6.5	46	

Contacts

Project Admin.	Brian Kelley	Field Contact	
Local Phone	239-963-6490	Local Phone	
Mobile Phone	239-963-6490	Mobile Phone	
Email	brian.kelley@atkinsglobal.com	Email	

Notes:

Project-wide Smoothness Incentive

- If IRI for all Lot's ≤ 55
 - Pay 3% Project-wide Smoothness Incentive
 - Calculated by FDOT Project Staff
- = FC-5 Bid Price * Tons FC-5 Placed * 0.03

Straightedge?

- Not required in areas tested by laser
- Required for areas not tested by laser
 - End of project, bridge joints, etc.
- Contractor can use straightedge for process control, but is not required
- Contractor chooses Process Control Methods
- Ultimately, Smoothness Affects Pay

Smoothness Committee Meeting

- March 22, 2018
 - 8am - 10am
 - Day after Flexible Pavement Committee Meeting
 - @ State Materials Office

Next Steps

- Develop IRI Warranty Criteria
 - Determine Primary Road IRI Limits
 - Create Primary Road Dev Spec
 - Let Primary Road Pilot Projects
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- Ultimately, Replace Ride Number with IRI Specs for Laser-tested Roads

Smoothness Equipment Rodeo

- April 4, 2018
 - 8am - 4pm
 - State Materials Office & Williston Test Track
 - Technical Presentations
 - Equipment Demonstrations
 - Equipment Vendors, Testing Service Providers, Contractors, & FDOT

Questions?
