

2020

WEBINAR SERIES



The logo for the Road Profile Users' Group (RPUG) features a stylized road with yellow and white lane markings curving to the right, set against a blue and black background. To the right of the graphic, the acronym "RPUG" is written in large, bold, black letters, with "Road Profile Users' Group" in a smaller font below it.

IRI Pilot Program Lessons Learned

Jacob Blanchard, INDOT

INDOT IRI Pilot Program – General Info

2020 Pilot Program

- New Engineers in CM dept – Training within, Mtgs with ODOT – Thank you Brian & Dan
- Establish a Certification Test Track
- Have 1st Certification Day with Contractors
- 10 Pilot Projects this season
- Process Review Interviews with Area and Project Engineers
- Revisions to Dept Specifications & Procedures, Add Guidance Documents, Start Training with Pilot Personnel

2021 Pilot Program

- Select New Test Track Location
- Have 2nd Certification Day with Contractors
- 20 Pilot Projects
- Process Review Interviews to continue learning



IRI Pilot Program – Lessons Learned on ALR's

INDOT Unique Special Provision – Contract Language

“At locations where the inertial profiler is being used on a surface course, all areas having a localized roughness in excess of 150 in./mi utilizing continuous IRI with a 25 ft window shall be corrected subject to review by the Engineer.”

Indiana Paving Industry Comments

- As we've learned, this tolerance results in an inordinate number of “must grind” locations. Perhaps the tolerance is too tight?
- We expect there will be instructions to the field to give the Project Engineer/Supervisor latitude in deciding if the bump needs ground considering factors such as disruption to traffic, unsightly appearance, etc. While I agree the inclusion of common sense, this type of subjectivity can be good or bad depending on the personalities involved.

IRI Pilot Program – Lessons Learned on ALR's

Indiana Paving Industry Comments Continued

- We would like to see more comparison of the profilograph index to the IRI index during the pilot stage to ensure that the measurement and payment for smoothness is similar and that the amount of corrective grinding is similar.
- We've found that the IRI is sensitive to chatter that the straightedge/profilograph would not have picked up on and is creating more corrective grinding locations.
- Some states started out with ALR's as part of the program and went away from them all together due to excessive grinding issues, however they do have more stringent segment smoothness requirements.

IRI Pilot Program – Lessons Learned on Smoothness Payment

INDOT Unique Special Provision – Contract Language

“When smoothness is measured by an inertial profiler, payment adjustments will be made for any 0.1 mile section based on initial MRI generated on the surface course only and in accordance with the following table. The IRI pay factors for smoothness will be determined prior to any required smoothness correction in accordance with 401.18(c).”

PAY FACTORS FOR SMOOTHNESS Posted Speed greater than 45 mph	
IRI, in./mi.	Pay Factor, PF
over 0 to 35	1.06
over 35 to 40	1.05
over 40 to 45	1.04
over 45 to 50	1.03
over 50 to 55	1.02
over 55 to 60	1.01
over 60 to 70	1.00
over 70 to 75	0.99
over 75 to 80	0.98
over 80 to 85	0.96
over 85 to 90	0.95
over 90	The pay factor will be 0.95 and the section shall be corrected to 90 or less.



IRI Pilot Program – Lessons Learned on Smoothness Payment

Indiana Paving Industry Comments Continued

- From our experience with IRI, I would like to see an Indot Specification with some language regarding requirement for an IRI measurement before construction starts and some room for adjustment of each individual job's expectations due to the severity of the initial IRI. We have seen some very high IRI numbers and if a job is not bid with the correct Items to correct the ride quality , then there is only so much a contractor can improve an IRI ,depending on the scope of the job.
- A percent Improvement consideration is needed or a Pay Factor Table Adjustment based on existing conditions and the number of opportunities to improve the overall road smoothness.
- We would like to see different payment tables based on the type of work, for instance mill and resurface versus full depth replacement.
- Example is a two-lane rural highway receiving that is being milled 1.5 in and resurfaced, often the outside wheel edge is > 150 in/mi with a narrow pavement width and stone shoulder.



IRI Pilot Program – Lessons Learned on Corrective Grinding

INDOT Unique Special Provision – Contract Language

“The width of the corrected area may be partial or full lane width, depending on the respective wheel path profiles. Underlying courses that are exposed by corrective action shall be milled to a depth of 1 1/2 in. and replaced with surface course. After the corrective action is taken on a surface course, the inertial profiler shall be operated throughout the entire affected smoothness section to verify the adequacy of the corrective action.”

Indiana Paving Industry Comments

- Because corrective grinding work is expensive due to subcontracting and all the MOT; we would like to minimize remobilizing to require corrective grinding a 2nd or 3rd time. There is a need to understand and utilize ProVal Grinding simulation as a tool to ensure effective corrective work the 1st time.
- We should push a straightedge to verify correction. We can't keep a profiler with us during grinding. In addition, if we drive it later and find an uncorrected (or new) bump, we have to mobilize to regrind and disrupt traffic again.
- We had difficulty locating and effectively grinding all of the locations flagged in ProVal as ALR's. There is a need to develop guidance on creating a corrective work list and ensuring that the locations in ProVal are aligned with actual field locations.

IRI Pilot Program – Lessons Learned on Straightedge Simulation

INDOT Unique Special Provision – Contract Language

“For contracts which include the Inertial Profiler, HMA pay item, the 16 ft long straightedge or the Inertial Profiler simulating the 16 ft long straightedge shall be used to accept longitudinal smoothness on surface courses at the following locations:”

Indiana Paving Industry Comments

- There is some interest in utilizing the high-speed profiler on sections through town under 45mph which are under the 16 ft straightedge requirement. This requires the use of the straightedge simulation function within ProVal. Also would require MOT to allow the profiler to run without stopping through town at stop lights, signs, and be clear of traffic, etc.

IRI Pilot Program – Lessons Learned on Training & Development

Indiana Paving Industry Comments Continued

- We have concerns that department personnel will not understand how to inspect and manage IRI pilot project work and understand the ProVal data; it may cost us smoothness payment and require too much unnecessary corrective grinding.



Q&A

QUESTIONS?

