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Impact of Incentive/Disincentive Specifications on Long-Term Asphalt Pavement Performance

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Current Situation

Since 2002, the Florida Department of Transportation (FDOT) has set percent within limits (PWL) specifications for the acceptance and payment of asphalt materials. In general, a PWL is a quality assurance measure that is used to pay contractors for the quality of products they submit to FDOT.

The PWL system allows the contractors to earn incentives or disincentives depending on the quality of the materials and pavement they deliver.

As contractors introduce new types of asphalt materials, it is important to know the impact of the PWL specification on the long-term performance of asphalt pavements.

Before this project, it was not clear if using the current PWL standard was cost-effective or even adequate for long-term asphalt pavement performance.



A recent research project evaluated the FDOT's percent within limits (PWL) to determine if the current specifications were appropriate in the context of long-term asphalt performance.

Research Objectives

The objective of this research was to determine the level of impact that FDOT's PWL specification has on the long-term performance of asphalt pavements, essentially verifying whether the PWL was appropriately calibrated.

Project Activities

Following a literature review, the Applied Research Associates, Inc. research team collected data from 68 completed projects, including as-built plans, pay factor worksheets, and quality control and verification reports. The team used that data to build a comprehensive database.

They analyzed the database and determined the impact of the specifications on long-term pavement performance, such as crack rating and rut depth, then developed a statistical model based on data and analysis.

Finally, the team developed recommendations to update the PWL specifications.

Project Conclusions and Benefits

FDOT can adjust the PWL specifications to correlate with the quality of materials construction contractors deliver and ultimately be more cost-effective.

For more information, please see fdot.gov/research.