DRISI
CALTRANS DIVISION OF RESEARCH, INNOVATION AND SYSTEM INFORMATION
TRANSFORMING IDEAS INTO SOLUTIONS

Research Notes

Concrete and Asphalt Pavement Smoothness and AsphaltQuality Incentive/Disincentive Analysis [UCPRC23 TO-006]

To review the status of smoothness in concrete and asphalt pavements. Evaluate asphalt pavement for possible incentive/disincentives.

Construction

May 2026

Project Title:
Concrete and Asphalt Pavement Smoothness and Asphalt Quality Incentive/Disincentive Analysis [UCPRC23 TO-006]

Task Number: 4239

Start Date: February 13, 2023

Completion Date: September 30, 2026

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WHAT IS THE NEED?

California Department of Transportation (Caltrans) specifications for pavement smoothness and statistical pay factors include incentive/disincentive pay adjustments. The determination of the pay adjustment requires multiple steps on the part of the contractor and in the Caltrans verification process. It involves the use of complex Microsoft Excel spreadsheets housed in a Caltrans secure file sharing system. These spreadsheets, which Caltrans developed, have built-in formulas and complex macros. However, in this early implementation phase, the pilot program has demonstrated that the spreadsheets, which are critical to the successful implementation of smoothness specifications for ensuring quality pavement, are difficult to use by both the contractor and Caltrans field staff and are challenging to maintain.

WHAT ARE WE DOING?

This project will develop a user-friendly solution with better functionality whereby eliminating the multiple steps and streamlining the current process needed for submitting and verifying the pavement smoothness and Asphalt Concrete (AC) quality pay adjustment that will save both the contractor and Caltrans valuable time and resources. The solution will be hosted, supported and maintained by the University of California Pavement Research Center (UCPRC).

Caltrans

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WHAT IS OUR GOAL?

A web-based user-friendly approach developed by, hosted, and supported by UCPRC for analyzing and processing the incentive/disincentive for concrete and AC pavement smoothness and AC quality.

WHAT IS THE BENEFIT?

Smoother pavements will reduce greenhouse gases created by vehicle and lead to longer lasting pavements.

WHAT IS THE PROGRESS TO DATE?

This task order was executed on 02/09/2024.

The design and functionality of both the pavement smoothness and statistical pay factors web applications have largely been completed. The development of the beta version of the statistical pay factors (SPF) web application has been completed and it is currently being tested by Division of Construction stakeholders. The development of the smoothness portion of the web application is expected to be completed soon and will undergo similar beta testing.