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CALTRANS DIVISION OF RESEARCH, INNOVATION AND SYSTEM INFORMATION

TRANSFORMING IDEAS INTO SOLUTIONS

Research Notes

Improve pavement surface distress and transverse profile data collection and analysis, Phase II, TPF-5(399)

Analysis of transverse profile data to identify pavement distress, and deployment of precise methodology for data collection among State Highway Agencies (SHAs).

Pavement

NOVEMBER 2024

Project Title:

Improve pavement surface distress and transverse profile data collection and analysis, Phase II, TPF-5(399)

Task Number: 3999

Start Date: April 1, 2019

Completion Date: March 31, 2025

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WHAT IS THE NEED?

The technical capabilities of systems to collect and analyze Pavement Surface Distress and Transverse Profile (PSDATP) have increased dramatically in the last five to ten years. Many SHAs are in the process of assessing the procurement of equipment/systems or procuring vendor services for network and project level pavement condition assessments. The collection of quality PSDATP is critical for pavement management and design. The current national and state efforts to develop and refine pavement performance measures highlight the high value provided by quality PSDATP.

This study is being established to provide direction that will unify the strategies, address implementation efforts, and promote practices that improve the accuracy and repeatability of the data collection and analysis systems, and promote the knowledge and understanding of PSDATP measurements.

WHAT ARE WE DOING?

This study proposes a systematic methodology for collecting, analyzing, and implementing the identification of pavement distress. The Federal Highway Administration (FHWA) will develop a robust methodology to identify pavement distress and ensure its feasibility for implementation across state Departments of Transportation (DOTs). This study will be conducted into three different tasks:

Task 1. Administration.

Assemble a Technical Advisory Committee (TAC) - It is

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expected that the first activities will include the development of a "Study Charter" to outline how the TAC will function in carrying out its main duties of identifying needs, proposing projects, and selecting projects to be carried out within this study.

Task 2. Identify, prioritize, and select projects as necessary.

Identify, prioritize, and select projects to be conducted within this pooled-fund project. Potential projects may include efforts that are conducted by members of the TAC or contracted resources. Potential projects may include, but are not limited to certification/validation of existing standards; field evaluations of vendor data collection and analysis systems; analysis standards for transverse profiles related to water retention; implementation/ demonstration of results; procurement standards for vendor services; calibration standards; verification standards; feasibility studies for innovative technologies; technical assistance services to assist SHAs in implementing standards; define critical accuracy requirements; monitor emerging technologies; and develop surface distress indices.

Task 3. Project Execution.

Selected projects will be developed into project plans. If a project requires a contract, then the project plan will be suitable for a contract statement of work.

WHAT IS OUR GOAL?

This pooled-fund study aims to: (1) develop an accurate methodology for identifying pavement surface distress using transverse profile data, and (2) establish a practical approach for broad implementation across state DOTs, including the California Department of Transportation (Caltrans).

WHAT IS THE BENEFIT?

The proposed method will improve the efficiency and accuracy of pavement surface distress and transverse profile data collection and analysis.

WHAT IS THE PROGRESS TO DATE?

Twenty state highway agencies have committed funds to this study, which is being conducted with TPF–5(299). The work is forty-five percent complete to date.

The anticipated work for the next quarter will focus on awarding a new project for implementation of TPF–5(299) products.