

Pavement**May 2026****Project Title:**PAV TPF 1560: LTPP Forensic
Investigations, Stage 2, TPF-5(500)**Task Number:** 4184**Start Date:** August 17, 2023**Completion Date:** March 31, 2026**Task Manager:**Somayeh Mafi
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PAV TPF 1560: LTPP Forensic Investigations, Stage 2, TPF-5(500)

Construction and field data from cradle to death from California test sections will provide valuable insights into the factors contributing to the overall long-term pavement performance in California.

WHAT IS THE NEED?

Long-Term Pavement Performance (LTPP) is largest and longest pavement performance study in the whole world. As part of LTPP, the California Department of Transportation (Caltrans) actively participated and built many LTPP test sections on Caltrans highway system. These test sections are/ were monitored by LTPP program by a FHWA contractor over multiple years. Some of these sections have complete life cycle history with extensive construction and subsequent field test data. As these sections are decommissioned due to age or deterioration, it is very important to collect the final set of field data before phasing out the test section for data completeness.

WHAT ARE WE DOING?

This is a continuation of TPF-5(532) effort, where it will perform more forensic evaluation of LTPP section. Final data collection including nondestructive testing and field cores from the test section itself will be collected and analyzed, as active test sections are phased out by Caltrans due to system maintenance and rehabilitation needs. These forensic evaluations will be done accordance with the guidelines provided in the Transportation Research Board's National Cooperative Highway Research Program (NCHRP) Report 747: "Guide for Conducting Forensic Investigations of Highway Pavements."

WHAT IS OUR GOAL?

The study goal is to evaluate the long-term pavement



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performance and the factors contributing to the performance. The end-product will be a report detailing the forensic evaluation and whether the LTPP database adequately explained the performance of the test sections.

WHAT IS THE BENEFIT?

With participation in the proposed pooled fund study, Caltrans will have invaluable long-term pavement performance data for analysis and future use/implementation.

WHAT IS THE PROGRESS TO DATE?

The work performed in each of the tasks specified by the project's scope of work (SOW) is summarized below.

- Task 1. Project Management:
 - Began preparations for the October 6, 2025 project TAC meeting
 - Prepared and submitted July, August, and September 2025 invoices
 - Prepared and submitted quarterly progress report for the July 1 to September 30, 2025 period
 - Continued to perform subcontractor management activities
 - Continued to coordinate project activities with FHWA LTPP Team and its Data Collection Services Contractor (DCSC)
 - Conducted other required project management activities.
- Task 2. Test Section Nominations:
 - Continued to work on identifying LTPP test sections for possible forensic evaluation – to date, 67 LTPP test sections at 19 locations in 17 states have been identified
 - New test sections identified during the reporting period in question include two California SPS-2, two California SPS-8 (PCC), two South Dakota SPS-8 (AC), and two Wisconsin SPS-8 (AC) test sections
- Task 3a. Desktop Studies:
 - Completed forensic desktop evaluations for six Iowa SPS-2, two Colorado SPS-2, two Colorado SPS-8, six Oklahoma SPS-10, and four Florida SPS-10 test sections – draft technical memoranda were prepared and submitted to WSDOT for review and approval and most of them are being revised based on agency input
 - Commenced working on forensic desktop evaluations for three South Dakota SPS-8 (AC), two Wisconsin SPS-8 (AC), and two Washington SPS-8 (PCC) test sections – completion of these evaluations is anticipated in the upcoming reporting period.
- Task 3b. Follow-Up Forensic Investigations:
 - Prepared for and participated in virtual or in-person meetings with Florida, Iowa, Kansas, Missouri, North Carolina, Oklahoma, and Texas DOTs; provided update of TPF-5(500) activities to date and discussed forensic evaluation results for the respective LTPP test sections
 - Continued working on preparations for virtual meeting with Arizona, California, Mississippi and Oklahoma (follow-up) DOTs; will provide update of TPF-5(500) activities to date and discussed forensic evaluation results for the respective LTPP test sections
 - As appropriate, follow-up forensic investigation plans are being formulated based on outcomes from the referenced meetings.

- Task 4. Final Report: Began preparation of draft project report. Outline was prepared and about 30% of the outline has been populated. While effort was not anticipated until the next reporting period, the project team began working on the report to allow ample time for its completion.