

Pavement

May 2025

Project Title: PAV TPF 1560: LTPP Forensic Investigations, Stage 2, TPF-5(500)

Task Number: 4184

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Task Manager:

Somayeh Mafi
Senior Transportation Engineer
Somayeh.Mafi@dot.ca.gov

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 completed to date is summarized by task below.

Task 1 – Project Management:

- Prepared for an in-person meeting with TxDOT on January 22, 2025, in Austin, TX, to present updates on TPF-5(500) activities and discuss forensic evaluation results.
- Prepared for a virtual meeting with the TPF-5(500) Technical Advisory Committee (TAC) on January 23, 2025, to review progress and discuss priorities.
- Submitted invoices for October, November, and December 2024.
- Submitted the quarterly progress report for July 1 – September 30, 2024.
- Continued subcontractor management and coordination with FHWA LTPP Team and Data Collection Services Contractor (DCSC).
- Performed other required project management activities.

Task 2 – Test Section Nominations:

- Identified 38 LTPP test sections across 11 locations in 10 states for potential forensic evaluation.
- Continued submitting nomination forms for WSDOT approval.

- Ongoing collaboration with FHWA LTPP Team and DCSC to identify additional candidates.

Task 3a – Desktop Studies:

- Completed evaluations for 19 test sections in AZ, KS, MT, PA, TX, and WA; submitted draft memoranda to WSDOT for review and follow-up.
- Began or continued evaluations for 19 additional sections in MO, MS, CA, TX, and NC, with completion expected in early 2025.

Task 3b – Follow-Up Forensic Investigations:

- Finalized planning for the January 22, 2025, TxDOT meeting.
- Continued coordination with AZ, KS, MT, WSDOT, and FHWA LTPP Team on draft desktop evaluations.
- Working on follow-up actions from the July 2, 2024, WSDOT review meeting.
- Follow-up investigation plans are being developed as needed.

Task 4 – Final Report:

- No work is currently planned under this task until the final phase of the project.