Bonded Concrete Overlay on Asphalt (BCOA) Pilot Project
Evaluate the implementation and early field performance of BCOA pilot projects

WHAT IS THE NEED?
Although Bonded Concrete Overlay on Asphalt (BCOA) technology has steadily improved since the mid-1990s and it can now be regarded as a mature technology, there are still key gaps in knowledge that require further research. Among the gaps in knowledge are the essentially unknown role and performance of the concrete–asphalt interface, the mechanics of the asphalt base, or the role of the environmental conditions on BCOA performance. None of the projects in other states have included the use of high early-strength concrete which is expected to be used on the majority of the projects in California. Further research is also needed to determine which are the optimal designs for California, since differences exist among U.S. states regarding important design features of thin BCOA. Differences include: such slab dimensions, shoulder types, or the need for asphalt milling before placing the overlay.

WHAT ARE WE DOING?
The California Department of Transporation (Caltrans) funded the Partnered Pavement Research Program Strategic Plan Element (PPRC SPE) 4.58B, “Development of Improved Guidelines and Designs for Thin Whitetopping,” with the primary goal to develop recommendations and guidance on the use of thin BCOA as a rehabilitation alternative for California. Recommendations and
guidance are based on the adoption of and improvements to the technology developed in other U.S. states. Because of Caltrans interest in thin BCOA, a pilot is planned on State Route (SR) 113, in District 3 in Woodland. The evaluation of this pilot project constitutes the main goal of this study.

WHAT IS OUR GOAL?

The primary goal of this project is to evaluate the implementation and early field performance of BCOA pilot projects in order to identify how well this treatment works under different climate, traffic and existing site conditions.

Additionally, the project will identify best practices and standards applicable to California’s climate, materials, and construction work zone practices.

WHAT IS THE BENEFIT?

Appropriate construction practices developed with this research, combined with the earlier developed mix designs will give Caltrans an additional pavement rehabilitation alternative as it works to maintain the transportation network.

WHAT IS THE PROGRESS TO DATE?

Construction has begun on SR 113 and the instrumentation has been installed into the test sections. The construction was monitored and documented.

In addition, the construction report was completed, the response under truck loading was measured, and analysis of the Repeated Load Triaxial (RLT) evaluations was completed.

IMAGE

Image 1: Milled asphalt prior to concrete lay down