UTC Project Information

Project Title	Performance Monitoring of Preservation Treatments in Honolulu
University	University of Hawaii at Manoa
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Funding Source(s) and Amounts Provided (by each agency or organization)	$93,876 USDOT $93,877 University of Hawaii at Manoa
Total Project Cost	$187,753
Agency ID or Contract Number	DTR13-G-UTC44
Start and End Dates	August 15, 2014 – August 14, 2016
Brief Description of Research Project	This project will monitor the performance of different preservation treatments in Honolulu, Hawaii. The condition of the treated and control sections will be surveyed prior to the treatment application and then regularly at intervals between 3 and 4 months with the goal of quantifying the benefits of PP. The treatments considered are fog seal, slurry seal, asphalt seal coat treatments currently available in Honolulu, thin lift overlay, and crack sealing. In addition, pavement temperature with depth will be monitored on one section to validate whether moduli may increase with depth for the Honolulu environment; a situation that is believed to result in high tensile strains near the surface of the pavement and thus affect the performance of pavement preservation treatments. Finally, the materials used for pavement preservation will be tested in the laboratory. Specifically, binders (including emulsion residues) will be tested with a Dynamic Shear Rheometer and a Viscometer, the Wet Track Abrasion will be used for slurry seals, and several performance tests will be carried out for thin lift overlay. The test results will be used to help in writing guidelines

	and potentially help explaining any unexpected behavior of the treatments.
Describe Implementation of Research Outcomes (or why not implemented)	N/A
Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	Monitoring closely the performance of different PP treatments in Hawaii, including the pavement condition before the treatment application as well as the treatment application process and material performance characteristics will provide basic information for developing treatment life estimates and estimating pavement life extensions in a tropical environment. In addition, it will allow the observation of the PP treatments' performance in a city environment as opposed to the more typical rural environments confronted by DOTs. Performance testing of TLO mixes together with monitoring of pavement temperatures with depth will be used to provide guidance to counteract issues as top-down cracking and de-bonding. As mentioned before, additional years of monitoring would be needed to quantify more accurately all the benefits so it is hoped that the study will be continued beyond this initial effort.
Web Links • Reports • Project website	<www.chpp.egr.msu.edu>