



**Summer Program on Transportation Statistics
August 14-18, 2017**

Lecture: *Measurement Effects of Aging on Physical Properties of Pressurized Aging Vessel Residue*

Speaker: James Rosenberger

Abstract:

Standard Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV) and AASHTO T-240, Standard Method of Test for Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test - RTFO), make no provision for the effects of ambient barometric pressure (elevation) on the properties of the test residue. An experiment to test for these elevation effects was developed based on reports from agencies located at elevations above 3,000 - 4,000 feet that shows variability exists between their test results and those from laboratories located at lower elevations. Statistical analyses performed as part of this project on data supplied by AASHTO-resources and the WCTG verified that the effect is of engineering consequence and that it is binder-specific, confirming an earlier analysis of the WCTG data. Preliminary results indicate that the preferred method for accounting for elevation (ambient barometric pressure) is to increase the RTFO test time as a linear function of elevation. A minimal experimental design will be presented to confirm the effect of elevation on these accelerated aging test results.

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