

UTC Project Information	
Project Title	Development of a Laboratory Procedure for Measuring the Effectiveness of Dust Control Palliatives
University	University of Alaska Fairbanks
Principal Investigator	David Barnes
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Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans \$80,000 Alaska Department of Transportation \$80,000
Total Project Cost	\$160,000
Agency ID or Contract Number	DTRT13-G-UTC40
Start and End Dates	September 16, 2015– September 15, 2016
Brief Description of Research Project	<p>This research has been a collaborative effort with the Alaska Department of Transportation and Public Facilities (AKDOT&PF), the Alaska Department of Environmental Conservation (ADEC), and the dust control palliative industry.</p> <p>As we worked with community leaders on controlling dust in their villages, we were often asked questions about which product should be used how much, and how often it should be applied. These are valid questions, all of which require evaluation and measurement procedures that are both accurate and reliable.</p> <p>Unlike other surface stabilization methods used by the transportation industry (e.g. asphalt treatment, cement, etc.) all of which have mature and widely accepted laboratory test methods that correlate to their field performance, there are no field or laboratory testing procedures for determining the what type of, or how much, dust control palliatives should be used on any given unpaved or natural wearing surfaces.</p> <p>Hence, engineers and road managers are forced into a trial-and-error methodology or relying on personal judgement determining what they think would work best on their gravel roads or runways. This research aims to answer these questions.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>This project was implemented as a Alaska Test Method to be used on projects related to dust mitigation. This allows the Department to select dust palliatives based on demonstrated performance rather than supplier claims.</p>
<p>Impacts/Benefits of Implementation (actual, or anticipated)</p>	<p>This is the only recognized test method for measuring the performance of palliatives before applying on the roadway or airport. It also allows the performance of the palliative on the roadway or airport to be monitored using a recognized test method. The test procedure separates palliatives that perform well from those that perform poorly in a repeatable manner.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project Website 	<p>https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/43523/2015-S-UAF-108_%20David%20Barnes_Dust%20Fall%20Test2.pdf?sequence=1&isAllowed=y</p> <p>http://hdl.handle.net/1773/43523</p>