

## Aeolian Sands as Material to Construct Low-Volume Roads

Journal	<a href="#">Transportation Research Record: Journal of the Transportation Research Board</a>
Publisher	Transportation Research Board of the National Academies
ISSN	0361-1981 (Print)
Issue	<a href="#">Volume 2205 / 2011</a>
Pages	67-72
DOI	10.3141/2205-09
Online Date	Tuesday, July 26, 2011

### ABSTRACT

Aeolian sands are widespread in many semi-arid to arid areas of the world and often provide the only economic source of construction materials for low volume roads. Experience in southern Africa over a number of decades has shown that provided aeolian sand materials are correctly selected and constructed, they can make effective subgrade, subbase and base layers for low volume roads. Research into their use has shown that the use of standard geological (sedimentological) techniques for classification allows the differentiation of sands that will perform well or badly as road base and subbase materials. The technique uses the Phi classification system allowing the sands to be defined by their mean particle size and the standard deviation about this mean. The paper describes simple techniques for assessing the suitability of these materials for use and innovative construction methods for their utilization. The results obtained during monitoring of various roads also indicate the benefits of well-compacted sand subgrades.