

Trinidad Lake Asphalt in Pavement Performance

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Abstract

Trinidad Lake Asphalt (TLA) is a natural asphalt and has been used extensively over the past 100 years in flexible road-paving.

Research has established that the unique bituminous miscelles and fine mineral matter of TLA combine to deliver stabilising and improved durability characteristics to pavements, when used in various asphalt mixes. It is shown in this paper that both user-producer and performance-based specifications can be met with selected percentages of TLA modification through traditional blending procedures, and its modulus and performance characterisation facilitate the use of most design codes for new surfacing and overlays.

The economic efficiency of TLA surfacings, based on HDM III analysis is such that society derives between TT\$1.5 to TT\$2.5 in life cycle benefits per kilometre when TLA cements are used instead of straight bitumen in road-paving works. These savings accrue mainly from reduced maintenance intervention and reduced road-user costs, which usually derive from strong and durable pavements. Case studies in support of this observation of strength and durability are presented for Trinidad and Tobago airports and the New York Metropolitan airports, tunnels and bridges. In these cases, the service demand of the facility and type of remedial intervention are described and the resulting performance is noted. Generally, the pavements have proven to be strong and durable.